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Book _____

FIRST PRINCIPLES OF FAITH.

BY

MARSHALL RANDLES,

AUTHOR OF "FOR EVER," "SUBSTITUTION," ETC.

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P R E F A C E

SINCE the substance of the following treatise was written, some remarkably able works, handling many of the topics here discussed, have appeared, notably *A Study of Origins*, by Dr. Pressensé ; *The Philosophy of Theism*, by Dr. Ward ; *The Philosophical Basis of Theism*, by Dr. Harris ; *Physical and Moral Law*, by Rev. W. Arthur, M.A. ; and *The Unity of Nature*, by the Duke of Argyll. This fact led me to consider whether these productions met the want I had aimed at supplying, and thus rendered the publication of my manuscript superfluous. The result was a conviction that, notwithstanding the rare excellence of these works, there was still need for such a book as I had attempted to provide. I therefore issue this production in the hope that it may, in some degree, take part in promoting the cause of truth and human well-being. Unbelief continues to project its shot and shell into the lines of Christian Theism ; and, though its former attacks have been well met, it must not be left to repeat them unresisted. The present volume only aspires to be one of many contributions, made in vindication of those great principles which underlie the experience and practice of true religion.

MARSHALL RANDLES.

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INTRODUCTION.

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IT is sometimes the boast of scepticism that Theism is founded in sentiment, and shrinks from the test of reason. Speaking of the teleological argument, Dr. L. Büchner says: "Modern natural science has pretty well emancipated itself from such empty notions, and abandons these innocent studies to such as delight in contemplating nature, rather with the eyes of the feelings than with those of the intellect."¹ Another Atheist intimates that before the production of his book,² neither Theists nor anti-Theists dealt with the subject from the standpoint of pure reason. So far as the reproach is just, it certainly belongs not to Theism alone. If the indifference desiderated be that which would examine the subject without an earnest wish that Theism may be proved true, and a reverent sympathy with the Theistic side of the question, the desire is unreasonable. In one who deems the certainty of God's existence an inestimable boon, such an indifferent state of mind were more faulty than it would be in an heir investigating his disputed title to his patrimony.

By no means would I undervalue some Theistic arguments which are based on the facts of feeling.

¹ *Force and Matter*, p. 89.

A Candid Examination of Theism, by Physicus.

For example, the *heart* of man craves for a God of infinite power and wisdom, of perfect righteousness and benevolence, to whom it may render loving homage, and in whom it may confide for deliverance, protection, and happiness. Even "unbelievers," as Calvin observes, "flee from God, and yet seek Him through some kind of involuntary impulse." Reason, not feeling, may well infer that there is probably a reality corresponding to this deep natural want ; and when the response to that feeling comes in the idea of a God of these perfections, reason and feeling unite in accepting Him as the truest and greatest reality, and the answer to man's deepest need.

Again, I am not prepared to condemn as worthless the inference from man's *interest* in the existence of God. If it be true that Atheism extinguishes all hope for the world to come, annihilates the basal principles of morality and all the blessedness of religion in this life, thus leading down to the *Avernus* of pessimism, and if Theism be the only means of enlivening humanity with love, and joy, and hope, it is impossible that honest men should not ardently long for Theism to be true. But we may conclude that as the appetites of the body have their complements in nature, so this deepest mental appetency—this equally natural hunger of the soul—must have its counterpart in a Divine reality. When we betray a predilection for Theism because, from the very constitution of man, his noblest ends and interests are bound up with it, who has a right to condemn this predilection as irrational, or as not a just presumption in favour of Theism ?

So to encourage faith is not to assume that "whatever is desirable is true." But the need of a God, being

constitutively universally and often intensely felt, that is to say, being of our very nature, analogy favours the presumption that this natural need has somewhere its complement in a Divine Being.

Taken in this order, prior to other reasons, the fact just mentioned affords a presumptive ground for belief in God; taken after those reasons, it amounts to a strong confirmation.

It is objected that to trace this longing for God to any but physical causes violates the law of parsimony, which requires as few causes as possible. But physical causes alone do not account for it, and the law of the fewest possible allows of our seeking an immaterial and Divine cause.

Man's emotional nature and his instinctive desire for happiness, in proportion as they are enlightened and pure, declare for the existence of God. Nor need we stultify their voice.

But I hold that reason, our special faculty for distinguishing truth from falsehood, when rightly questioned, pronounces quite as emphatically as feeling and interest on the same side. Atheism appeals from the court of feeling to that of intellect. Theism accepts the challenge, confident that the issue will be a decisive verdict in its favour.

Apologists have sometimes appeared too ready to surrender the sanction and prestige of reason to infidelity, and to retreat behind the bulwarks of conscious advantage and sacred emotion. Being firmly of opinion that the approval of reason belongs to Theism, and not to anti-Theism, and that the more thoroughly the question is investigated, the more reasonable will belief in God appear, I propose to show,

by the Atheist's acknowledged standard, that Natural Theology and intelligence are not enemies, but inseparable allies, or rather that Theism is essentially founded in reason.

That reason is fallible, and liable to be prejudiced by sinister influences in both believers and unbelievers, goes without saying. Nevertheless, within the sphere of nature, it is the best faculty we possess for the pursuit of truth. Abandon it, and we become the victims of superstition and ignorant passion, exposing us defenceless on all sides to every wind of doctrine.

It cannot be denied that in the present age anti-Theism is especially bold and aggressive. Much of our literature is tainted by it. Its stock objections and contemptuous sneers have found their way into both higher and lower grades of society. Prominent men in science and politics are said to be destitute of religious faith. The same state of mind is attributed to many of the working classes, and to many, especially on the continent of Europe, who retain a formal connection with the profession of religion, Christian or Jewish. The avowed and organized forms of infidelity, with its champions on the platform and in the press, are in contact with the masses. Widespread indifference to religion is to some extent spiced with a sceptical spirit. How far the air of infidelity is merely assumed to be cast off as soon as the king of terrors approaches, or how far the evil has rooted itself in men's convictions; how far the estimate of its victories is exaggerated as to individuals or communities; and how far the wish is father of the unbelief, it is impossible to say. But that it is abroad, and spreads its blighting influence through the nations, to the injury of many minds and the hin-

drance of Christianity, must be patent to all who study the signs of the times. Prebendary Row spoke with insight when in his Bampton Lecture of 1877 he remarked that "in the higher regions of thought we are undoubtedly approaching a great crisis between the principles of Atheism and Pantheism on the one side and those of Theism on the other."

Opinions differ as to the best way of treating the evil. Some would ignore its presence. But that would not check, much less stop, its progress, nor would it meet the case of those who are entangled in its meshes, or in danger of becoming so. Nor can it be met by mere denunciation. Others would devote all the energies of the Christian Church to its overthrow, which would be neglect of the Church's edification. Different methods must be employed in due proportion. And prominent amongst these must be the use of the press, exposing the fallacy of all anti-Theistic teaching, and presenting the broad firm bases on which faith in God rests. History tells of the powerful service rendered to the cause of truth by means of Christian literature against pagan and mediæval opposition to Christianity, against English Deism, and latterly against German Rationalism.

Apologists have need not only to continue the defence of the truth, but to face about from time to time in order to confront new aspects of unbelief as they arise. Whatever may be the exact magnitude of present-day anti-Theism, to leave it to work its way unopposed were ecreant to the cause of truth and righteousness, and an injury to practical religion. To the war which Christianity is waging against unbelief the following chapters are intended as a contribution, however small its relative value.

The progress of the controversy has necessarily involved many complex and metaphysical questions, raised either in attack or defence. Moreover, the field is deemed remote from the enjoyment and practice of godliness. Consequently the subject may not greatly attract, or even appear of great importance to some Christian believers, whose faith was never perturbed by the assaults of infidelity. But those who are thus happily exempt, and delight in the security of the citadel of Christian faith far away from the strokes of the enemy, ought not to be unconcerned about brethren more exposed, or forget that unless the outposts are well defended, the citadel itself will not be long unassailed. Abandon apologetics, and the saving doctrines of Christian experience must soon share a similar fate.

Whatever other means may be employed for the same end, the author is one of those who hold it incumbent on the adherents of the Christian cause to defend it against the incessant attacks nowadays made on the fundamental principles of faith in God, and to set forth its paramount claim on the credence of mankind. For their own safety many may stand in no need of such help as this treatise seeks to afford; but probably there is a considerable class to whom it might be of service did the writer's performance equal, or even approximate to his ideal. If religious verity is to make headway against all attempts to bring it into discredit, it will not be by indolently repeating the proverb, "Truth is great, and will prevail," but, at any rate in part, by earnest vindication of its claims, and exposure of the teaching which misrepresents it to the view of public opinion.

PART I.

VARIOUS KINDS OF THEISTIC EVIDENCE.

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NATURAL THEOLOGY is rich in the variety, as well as in the strength of its supports. As men's minds differ in their susceptibility of impression by different kinds of evidence, the supply corresponds to the demand. A system of proof which compels the entire assent of one class of thinkers hardly makes an impression on another. Some are more familiar with one groove of ratiocination than another. One implicitly accepts what is handed down to him by his trustworthy predecessors; another scrutinizes every tier of proof, and cannot be content until he has laid bare the very foundations. One takes the unquestioning firmness of his own conviction as indigenous and constitutive, without caring to pursue any psychological analysis of its origin; while another insists on resolving the conviction into its ultimate elements. One is charmed with the idea of deducing Theism *à priori*, after the style of irresistible mathematics; while another prefers the solid *à posteriori* steps so familiar in daily life, by which he ascends from the known to the unknown, from the effect to the First Cause. One rests mainly on the accuracy of his own reasoning, while another seeks support in the common consent of mankind. And yet another builds up his faith on most or

all of these foundations, securely confiding in their united strength.

It does not follow, however, that the several grounds of Theistic belief are of equal cogency and value. One may be available only to the few who have the taste, ability, and opportunity to soar into the loftiest regions of metaphysics; while another may be adapted to produce the deepest and most widespread conviction among the many. It is an interesting exercise, and a fitting preparation for our sequel, to glance at the nature and worth of the principal lines of argument comprehended in Theistic evidence.

1. *The Intuitive.* Respecting the *intuitive* certainty of Theism, which with many good and able men is the chief evidence, I am obliged to confess my scepticism, and to agree with Dr. E. R. Conder that if the knowledge of God were intuitive, it would leave neither need nor room for any other ground in the shape of Theistic proof.¹ Belief in God would then be necessary from the laws of thought, nay, would be itself a law of thought, and would preclude the moral character of belief now based on the voluntariness of honestly seeking, weighing, and using evidence. As there is no moral quality in believing two and two are equal to four, neither could there be in believing in the existence and attributes of God if that, like the other, were a necessity of thought. We should also have to conclude that all who avow their disbelief in God belie their immediate consciousness of His existence. Moreover, many of us who firmly believe in God on other grounds, after the closest analysis of consciousness are unable to detect

¹ *The Basis of Faith*, p. 100.

such intuitive belief. We are not content to be merely accredited with honesty in this fruitless search: we claim credit for as much accuracy in the process as we yield to our friends who arrive at an opposite conclusion. But the fact that each side has a considerable number of honest and careful adherents tells against the position that belief in God is intuitive, for if intuitive, it would be necessary, and consequently universal.

Again, intuitive truth is *ultimate*, and therefore admits not of further proof or evidential support from still more ultimate truth. It would not be ultimate were there any truth beyond it to which we could appeal in its support; that is to say, we can assign no reason for a necessary judgment. It is self-evident. But it sometimes happens that the advocates of intuitive Theism seek to back it up by reasons and arguments, as if they were not altogether sure of the self-evidencing force of the intuition.

Further, God is a *complex*, not a simple idea. Do we intuitively perceive *all* we know of Him? or His existence only, and not His attributes? or some of His attributes, and not others? and if so, which of them? and why those and not others? Should it be affirmed, in reply, that all are intuitively known, that would mean that His being, self-existence, omnipotence, omnipresence, omniscience, eternity, righteousness, and benevolence are all necessary and universal beliefs, which would be very hard to reconcile with fact.

Professor Calderwood's mode of vindicating Theism boldly asserts that the belief in the existence of "one Infinite Being" "is a necessary part of our own nature," and "belongs essentially to the nature of

man ;" that "our *natural belief* arises to bear testimony to the existence of the Unchangeable Originator of all finite being ;" that "we rest exclusively on the authority of faith for the simple testimony of the Divine existence." He speaks of "that fundamental conviction on which we rest for the assurance of the being and glory of the Deity."¹ Dr. Calderwood's intuitionism, though a good *argumentum ad hominem* in reply to Sir W. Hamilton and Dean Mansel, is not necessary to a refutation of their agnosticism. The infinity of God, ascertained in any other way than by intuition, is sufficient for the purpose. The force of his reply is not in the alleged intuition of the Divine existence, but in our *certainty* of that truth, by whatever means attained.

If we were bound, as we are not, to account for the affirmation of those who say they know God by intuition, we should not need to impugn their sincerity. There is such a state as "unconscious reasoning;" that is, reasoning without perceiving that we are doing so. The facility and rapidity of drawing an inference may lead to the mistake that the thought inferred is not inferred at all, but is the starting point of the mental process. Thus an honest and able man may infer the existence of God so naturally, quickly, and confidently as to suppose he has made no inference. In others the impression may be vivid and habitual, dating back from the dawn of reason, and confirmed by the experience of years, so that by the "inveteracy of our experience" it becomes easy to conceive of it as if it were constitutive and ineradicable. The manifold reasons on

¹ *Philosophy of the Infinite*, pp. 42, 313, 315, 317.

which it is based come to be regarded as supplementary, rather than fundamental to the belief. The mistake may be encouraged by the readiness with which the enlightened and devout mind responds to the welcome idea of God, so perfect in might and goodness. The quick, firm, satisfied grasp of the idea may easily be mistaken for a first and necessary principle of the mind.

It is a very different thing to say Theistic belief is *based upon* intuitive truth. That is more or less true of all reasoned truth. To say Theism is inferred under the guidance of the intuitive principle of causality makes intuition the starting point and rational ground of Theism. To say Theism itself is intuitive is to make the idea of God an object of *immediate* vision, and, by letting go the safeguard of rational evidence, incurs the danger of a most objectionable form of mysticism.

2. The *traditive* argument is that which regards the knowledge of God as an inheritance vouchsafed to mankind in its early days by special revelation, and handed down by successive generations to the present day, though often beclouded by ignorance, or mutilated by erroneous doctrine. On this kind of testimony Christians of the apostolic age connected the world with its Creator. They declared, "Through faith we understand that the worlds were framed by the word of God, so that things which are seen were not made of things which do appear."

It must be admitted to be historically true that as a rule the peoples of the earth have descended into ignorance in proportion as they have been removed from the light of those heavenly communications which eventually found their embodiment in the Holy

Scriptures. It is also certain, so far as history informs us, that apart from such help men never on any large scale attained to worthy conceptions of God by the light of nature. A probability is thus created that heathen as well as Christian nations owe their ideas of God more or less to tradition.

It is difficult, however, to estimate the extent of this obligation ; and it would be rash to affirm that all Theistic ideas have been thus derived ; nor have we any warrant for saying it is impossible to reason from nature to nature's God. To whatever extent tradition may have contributed to our Theistic conceptions, it cannot be justly accepted as the sole pillar of Theism.

3. The *ethnological argument* is from the general consent of mankind (*consensu gentium*). It cannot be denied that individuals, surrounded by the highest forms of Theism, have come to renounce all faith in God's existence, though they could not by any effort obliterate the *idea* of God from their minds. But the assertion that whole nations or tribes have been found utterly destitute of all ideas of a Divine Being has never yet been proved, nor is it likely to be. In many the ideas are crude and abject enough, not rising above the conception of invisible finite powers lurking or roaming among the objects of nature, or a being passing into dormancy or nothingness like Gotama. Still ideas of Divinity have obtained always among all nations so far as we know. Here, if anywhere, the maxim holds, What is always everywhere and by all believed must be true.

If there be no God, the universal and perpetual idea of God is utterly unaccountable. The extent to which it holds possession of men's minds renders Atheism

incredible. But while the fact of general consent creates a probability in favour of Theism, it also sets our thoughts on seeking the basis of the fact in reason. For unless the idea be intuitive, it must rest on evidence, which it behoves the investigator to trace in order to fortify his belief in the truth of the idea. Nothing could be more scientific than to ascertain how an idea so pervasive of human nature, so influential, and so closely identified with man's well-being, is founded in evidence. I cannot but think that evidence consists largely of tradition, and the manifestation of Divine workmanship in nature.

4. The *ontological* proof argues from the fact of our possessing ideas of infinity, eternity, and perfection, that there must be a reality of which they are the attributes. Those who, like Kant, reject this argument are nevertheless obliged to admit the presence of the ideas. Denying their implication of a corresponding reality, they regard the ideas as only "regulative" conceptions necessary to our explaining the universe. Kant concedes that such a Being may and must be admitted in order to explain the universe, but *only as an idea*.¹

We are to assume the ideas in order to account for the facts of the actual world. But why assume them if they be not true as attributes of something? How can ideas having no counterpart in reality be necessary to explain reality? It is more reasonable to say that as we can neither rid ourselves of the ideas, nor account for the universe without them, there must be a reality to which they correspond. This argument, however,

¹ *Critique of Pure Reason*, pp. 426-7.

though felt to have considerable force by those who can appreciate its exposition in the hands of such metaphysical writers as Dr. Samuel Clarke, does not seem well fitted to play a great part in convincing ordinary minds.

To this class belongs *The Argument À Priori for the Being and the Attributes of the Lord God, the Absolute One and First Cause*, by Mr. W. H. Gillespie, which claims to be an irrefragable demonstration. It is argued that infinite space and infinite duration exist because we cannot but conceive of them; that as they exist, they must be substances, or else modes of substance; that as they cannot be the former, they are the latter; that there can be only *one* infinite substance; that it must be Intelligent, Free, Happy, True, Faithful, Good, Just, All-loving, Ineffably Pure, Holy, and Perfect.

This chain of reasoning is of limited application, inasmuch as, after the first, each proposition is entirely dependent on its predecessor; and to perceive and remember the soundness of every stage in the process is a task not likely to be performed by the majority of minds.

Then again, the whole weight of the argument rests on a particular theory of duration and space, namely, that they are attributes or modes of a substance. But with all who hold, as Kant and Sir William Hamilton did, that space is nothing but "an *à priori* or native form of thought," or adopt any view of time and space other than that of the ontologists, the "argument" falls to pieces from want of a sure foundation.

"The argument" is not strictly *à priori*. *À posteriori* reasoning enters into its very substance, especially the inference of a cause from its known effect. For instance, in demonstrating the *intelligence* of the Infinite Being,

Mr. Gillespie reasons: "That it (intelligence), absolutely speaking, never began to be, is evident in this, that if it began to be, in the sense of there never having been any Intelligence whatever before, it must have had a cause; for, *Whatever begins to be must have a cause*. And the cause of Intelligence must be of Intelligence; for, there having been no Intelligence whatever before, *What is not of Intelligence cannot make Intelligence begin to be*. Therefore, if Intelligence began to be, there was Intelligence before there was Intelligence. Now, Intelligence *being before* Intelligence *began to be*, is a contradiction. And this absurdity following from the supposition, that Intelligence began to be, it is proved, that Intelligence never began to be: to wit, is of Infinity of Duration."¹ Similar *à posteriori* reliance on the law of causality is apparent at successive stages of "the argument."

These considerations might well have checked the overweening confidence of Mr. Gillespie in his own position and the disdain with which he attempts to disparage the *à posteriori* argument from nature, as when he represents it as fast losing favour with theologians, who are coming over to "the dialectical domain, where the *à priori* method is regnant," and that alone by which the Atheist can be successfully encountered.² So far as one can read the signs of the times, Theism owes, and is likely to owe much more of its stability with theologians, and against the assaults of Atheists, to the *à posteriori* method of reasoning from effect to cause than to the *à priori* argument from first principles to their results.

5. The *moral* or anthropological argument infers

¹ P. 36.

² P. xlv.

that God is, and what He is, from the known nature of man. Man has not only body and animal life, but intellect and moral qualities. Since he is a dependent contingent being, there must be some greater being on whom he depends and who possesses a nature corresponding to man's intellectual and moral nature. It is also inferred from our consciousness of obligation and responsibility that there must be a Moral Being who imposes the obligation, and to whom we are responsible.

6. The *cosmological* method argues from the existence of finite to that of an infinite being. Because being exists, some being is absolutely necessary and eternal. The *à posteriori* principle of this argument will be recognized in the line of evidence pursued in the following pages.

7. The *teleological* argument infers an intelligent Author of the world from the manifold evidences of means adapted to ends, especially to wise and good ends. The materials out of which this argument is constructed are so plentiful, and so ready to hand, and the process of inferring design from special adaptation, and a designer from design, is so easy, that this proof of Theism holds wide, and resistless sway over human minds. It is, in fact, a special branch of the argument from causation, but covers so vast a field that it is generally treated as a subject complete in itself. It will, however, be incorporated in what is to follow.

8. The course of argument I am about to present will appropriate more or less of the foregoing, but its chief characteristic will be its *inferences according to the doctrine of causality*. It may therefore be called the *etiological*, at any rate, up to a certain point; it is more than anything else.

This, like other Theistic arguments, though based on our knowledge of nature, is best appreciated in the light of revealed truth, not because we mistake the latter for the former, but among other reasons, as will be shown in Part V., because revelation presents the *ideal*, and thus greatly aids our efforts in reasoning up to it.

The Scriptures of revelation do not affect to set aside our inferences from nature. They actually incorporate them in their own system, and place a Divine imprimatur on their use. The inspiration of a Psalmist did not prevent his seeing God through His works. "The heavens declare the glory of God, and the firmament sheweth His handiwork. Day unto day uttereth speech, and night unto night sheweth knowledge." "The works of the Lord are great, sought out of them that have pleasure therein." In the view of the apostle Paul, the obviousness of the argument, in every part of the world, aggravated the sin of those who "refused to have God in their knowledge": "Because that which may be known of God is manifest in them, for God manifested it unto them. For the invisible things of Him, since the creation of the world, are clearly seen, being perceived through the things that are made, even His everlasting power and Divinity, that they may be without excuse." Dr. Paley's illustrated reasoning was anticipated by the author of the Epistle to the Hebrews: "Every house is builded by some man, but He that built all things is God."

PART II.

THE DOCTRINE OF CAUSALITY.

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I. PRIMARY TRUTHS.—

The operations of mind, like those of matter, are subject to law. True, there is a moral power in man which differentiates him from passive substance, and differentiates moral from natural law; yet the laws of thought are as binding upon him as the law of gravitation. There are certain principles to which the processes of intelligence must conform, and to which all our knowledge must correspond. These necessary dicta are *laws of thought*, according to which every sane mind must work, *nolens volens*. They are *first principles*, or primary ideas to which we have to appeal in all matters affecting our beliefs. They are *constitutive*, as they belong to the very nature of the mind.

They are *intuitive* cognitions, not dependent on proof external to themselves, but self-evident. Indeed, were they deduced from other truths, they would not be intuitive. They are their own warrant, producing certainty by their own intrinsic force.

They are *ultimate* truths, having none beyond themselves accessible to us: not innate knowledge, not knowledge at all until materials to work upon are supplied by intercourse with the world; but as occasion arises, we have no power to think the opposite

of these truths, though we may come to misinterpret their logical consequences.

Sir William Hamilton aptly calls them "necessary judgments," because thought, working naturally, cannot but concur in their teaching. They "*constrain*" us to believe or accept them in proportion to the perspicacity with which we look at them. Acceptance is not a matter of option, but of necessity. Being first and universal principles, Reid comprised them in the phrase "common-sense."

The recognized *criteria* of such primary judgments are *self-evidence*, *necessity*, and *universality*.

To the query, How then can different minds yield different answers to the same question when these laws are appealed to? the reply is that a mind may misinterpret to itself, or to others, the dicta of these laws; may mistake something else for intuition. A man, for instance, may say he can think five and four equal to, not nine, but ten. Yet assuming his mental constitution to be the same as ours, we are sure he cannot. Or he may affirm that he is unavoidably conscious of having changed his identity since yesterday, and become entirely another person; but assuming his sanity and his correct understanding of the meaning of the words, the constitution of our own minds compels us to think he misrepresents his own consciousness. Or again, he may so far pervert his moral faculties as to deny all moral qualities, or to declare that right and wrong are essentially the same; but our moral intuitions will testify that he is abusing his own mind.

Examples.—Primary truths may be *mathematical*, as that two and two are equal to four; the whole is

greater than its part ; a straight line between two points is the shortest ; two straight lines cannot enclose a space ; things equal to the same thing are equal to one another. They may be *metaphysical*, as that a thing cannot be and not be at the same time in the same sense ; what is true cannot be false at the same time in the same sense. They may be *logical*, as that two contradictory propositions cannot both be true ; or in the way of inference, thus, if all men are mortal, this particular man is mortal, where the inference, if understood, is inevitable. Again, all mammals are vertebrate ; the cow is a mammal ; therefore the cow is vertebrate. The major granted, the conclusion is compelled by the laws of thought.

Again, a primary truth may be used in the way of *generalization* or synthetic deduction, as when from the order of nature within view, we infer the same order in parts beyond our view. Or it may relate to *power*, as when we are unable to shun the notion of power or efficiency in connection with an event or result. It may have reference to the *trustworthiness* of our *faculties*, as when we are incapable of distrusting our senses or our memories. It may be *moral*, as when we are compelled to think right is not wrong, or that some actions ought to be approved, and others disapproved.

Some would also say these laws of thought make it impossible for us to rid ourselves of the consciousness of our personal *identity*, and so each one think himself some one else. Others also maintain that we cannot think except in relation to *space* and *time*. A body must be somewhere ; an event must be at some time. Dr. M'Cosh arranges all intuitive perceptions into three

kinds :—Primitive Cognitions, Primitive Beliefs, and Primitive Judgments.¹

Reasonableness of taking these truths for granted.—If these first principles are not to be trusted as true, we can have no certitude of anything. If sensation is not to be relied on, we are not sure of external phenomena. If the laws by which we cannot but think are not true, we can have no more confidence in what is an irresistible inference than in one which is manifestly inconsequential. All existence is then for aught we know a delusion. But it is not at our option to distrust these primary truths. To say we will not trust them is to say we will act insanely.

If any one of these intuitions may be denied, so may all. They have all the same foundation in the constitution of the mind. We have the same kind of warrant for one as for another, though some may impress themselves on our consciousness with more distinctness and force than others. Of course, these remarks apply only to true, and not mistaken intuitions.

Intuitive truths, though not derived from, are often confirmed by *experience*. When trusted for practical purposes, they turn out to be right in the result. The most complex and advanced mathematical calculations in practical matters are based on such principles as two and two are equal to four. Proceeding on the principle that the whole is greater than its part, we always find it to be so in objects of sensation. Our primary belief that an event implies power behind it is confirmed, inasmuch as we often actually trace out the power.

Any attempt to disprove or discredit these laws of

¹ *Exam. of Mill's Philosophy*, p. 262.

thinking must be made by means of them. It would be an attempt to prove the non-existence of reason by the use of reason. How could any one seek to make good his denial of the laws of thought but by means of those very laws? He would have to assume the trustworthiness of his senses, his memory, and his logical faculties, in order to prove that none of these faculties are trustworthy. In attempting to show that there was no such thing as intuitive or ultimate truth, he would have to rely on one or more such truths as the basis of his argument. There may be different opinions as to which of our judgments are necessary and ultimate; but to affirm that none are so, involves the absurdity of disbelieving what we trust, or the insanity of making ourselves incapable of all rationality.

To the category of first principles, or necessary judgments, belongs the principle of CAUSALITY, which I now proceed to expound.

2. ESSENTIAL PRINCIPLE OF CAUSALITY.—

The essence of the doctrine of causality is that *nothing can take place or become without a cause*. To say "every effect has a cause" is tautological, or at any rate ambiguous, seeing "effect" means something caused. It is better to say every event, or every change, has a cause, or whatever happens has a cause. This includes any commencement or termination of existence, and any change in the state or condition of an existing thing. Negatively stated, it means, *Ex nihilo nihil fit*: from nothing nothing can come; that is, of itself. Something from nothing without a pre-existing agent is not the same as creation of one thing, *by another*, out of nothing. In the latter case the cause is the agent; in the former there is no

cause. The former means that some reality began to be without any cause but itself; but to be self-caused means that, in producing, it acted on itself before it existed, which implies the contradiction that it existed before it existed. To seek escape by saying it was originated neither by itself, nor by another, implies that the thing which began to be did not originate at all. The mind instinctively rejects the proposition of self-creation as unthinkable and self-contradictory. We could not believe it if we would. Its untruth is proved by the necessary dictum of the mind that every event must have a cause, and not by any more internal and ultimate truth. That dictum is itself ultimate, and therefore does not admit of being proved by some truth beyond it.

Criteria.—Our axiom has the criteria of intuition, namely, *self-evidence*, *necessity*, and *universality*. It is universal because it is necessary. *Self-evidence* is an essential characteristic. If challenged to prove by evidence external to itself that every event must have a cause, we find it as impossible thus to prove the dictum as to disbelieve it. It will neither be dislodged from our minds, nor produce any authority for abiding there except its own irresistible force. If asked *why* I am sure no change can take place without a cause, my answer is, I cannot tell, except that the conviction forces itself upon me.

As to *necessity*, it is what Kant calls a synthetic or apodictic judgment; that is, a conception united with the consciousness of its necessity. There is, as Sir W. Hamilton says, an “inability to think the opposite.” It is an “irresistible conviction,” not an empirical judgment. It is not backed by a distinct principle of the mind; it *is* that principle.

The most perverse thinker could not, by any volition of his own, think two and two equal to five. Neither could he think anything began to be absolutely of itself, if he understood the meaning of the words. He may think it the result of a cause, occult, or inconceivable, or foreign, but not of nothing. He may think of a phenomenon or change in material objects abstractedly, or in relation to co-existent or subsequent phenomena; he may concentrate attention on the thing as commencing, or continuing to exist, ignoring the question of aught anterior in time. But let his mind turn to the question of its origin, and he is unavoidably driven to think of it as caused, whether by some antecedent phenomena, or substance, or other producer. Suggest to him mere antecedence of some other thing or event, and his mind remains unsatisfied. What it insists on as necessary is not merely something of earlier date, but something fitted to produce the phenomenon: not necessarily that it shall know *what* is the true cause, but that there *must be a cause*, whether found out or not. It insists on this, not after a process of reasoning from experience or analogy, but *immediately* as the intuitive demand of its own nature, before logic has the opportunity of applying its criticism.

The notion of causality is not an inference drawn by ratiocination, but a first principle from which ratiocination may commence. If I predicate that man is mortal, or the earth revolves, or the universe is finite, I affirm what may be quite true; yet I can only know it to be so by a process of reasoning in which I infer one truth from another. I can easily conceive the contrary. But when I predicate that every event must

have a cause, I affirm it with unhesitating confidence, without inferring or reasoning it from some other more primary truth. In fact, I am unable to think the contrary.

From difference in the degree of our familiarity with the two propositions, it may seem more easy to affirm that a thing begins to be, or an event happens without cause, than that two and two are five ; but the former is as repugnant to our intuitive judgment as the latter. This demand of intelligence is not met by Dr. Thomas Brown's suggestion of the mind's expectancy, or presumption of constancy in nature, for there is a *necessity* of thinking a cause, which is much more than the result of expectancy.

As to *universality* of the causal judgment, or "capability of being universalized," it is not ascertained by our direct acquaintance with the consciousness of all men. By that means nothing could be proved universal, seeing we cannot have immediate knowledge of all human minds. Assuming that all sane intellects are constituted alike (and if that may not be done, no one mind can have rational intercourse with fellow-men, or be certain they are rational beings), the universality follows from the necessity of thinking causality. Consequently what is necessary to one human mind as such is necessary to all. Then if it be universal, we shall find it in human nature in proportion to our knowledge of the intuitions of that nature. We shall never reach a point where the law of causality does not hold.

It is, nevertheless, possible for an individual to deny sincerely, though mistakenly, that every event has a cause ; but in practical matters he proceeds on that

principle, and thus proclaims the inaccuracy of his denial, and of his psychological analysis.

Although, however, the doctrine that every event must have a cause is intuitive, it is *confirmed* by experience, to which it is a practical guide.

The earliest openings of the mental faculties display their spontaneous outlook for causes. Phenomena are no sooner observed than the infant mind casts about for their causes, and, where they are not apparent, often betrays a restless disposition to search them out. Hence the numberless "whys" of young children as they make their acquaintance with the external world. Why does the sun rise every morning in the east, and set every evening in the west? why does the tide ebb and flow, and why twice every day? why does the locomotive draw the long train? what makes the kite and the balloon remain up in the air? what makes the water become ice? what makes the watch tick, and its hands move? what makes wood swim, and iron sink? what makes the beautiful rainbow? are among the many questions springing up spontaneously in the young mind according to different degrees of development. What prompts these questions but the mental law which declares that every event must have a cause?—what but the same law as is just now prompting me to ask for the cause of these "whys"?

In its higher developments the mind never throws off this law. Rather, the law asserts its authority more and more as the mental powers grow stronger. The groping for causes in childhood becomes the motive power of philosophical speculation. The pursuits of science proceed under its influence. Hence it has been said

philosophy is that which investigates the causes of things. But for this law many of the most brilliant pursuits of knowledge might not have been made. Certain facts are observed, and the philosopher starts in search of their causes, never doubting they *are* caused. What else prompted Sir Isaac Newton to follow up his investigation to the point of demonstrating the principles of gravitation? He pushed his inquiries because he was confident the phenomena of the heavens and the earth had their causes. Kant reminds us of the same motive in Copernicus, who was sure there was a cause of his relative position to the celestial orbs. He was not aware *what* the cause might be. He first conjectured that the sun moved round his standpoint, but investigation failed to confirm the theory. Then he conjectured that his standpoint might move round the sun, and investigation proved it to be the fact. But the basis of the investigation was his certainty that there must be a cause. On the same principle men seek diligently to solve the problems of other departments of physics. The facts must have a cause anterior to themselves, and to find out their causes is to bring them within the range of philosophy. Thus empirical science is dependent for much of its success on the intuition of causality.

But at the opposite extreme the same law reigns in the *uncultured* mind. The barbarian, as naturally as the philosopher, attributes the events around him to causes. No matter that he often assigns wrong causes. That only shows the persistency of the mind's demand for a cause. The point to be noted is that he always takes for granted there *is* a cause sufficient to produce what happens. So invincible is this tendency, that,

when he cannot conceive of adequate natural causes, he at once, like his more civilized fellow, assigns the events to the supernatural. Drought, famine, storm, earthquake, eclipse, plenty, victory, life, are with him no more uncaused or self-caused than with the scientific *savant*.

The same law may be traced in the ordinary thoughts of the average thinker. What is more common or natural on the occurrence of a new event than to ask how it can be accounted for? Much of men's thinking is taken up with trying to "account for" things. What is this but searching for causes? And even where a thing cannot be accounted for, the failure is always, as a matter of course, ascribed to our ignorance, never to the lack of causation.

Theory of Hume and Brown.—According to the theory of which David Hume, the sceptic, and Dr. Thomas Brown, the reverent Theist, were prominent advocates, causation is nothing but orderly succession, or one event following another in a uniform method, which we call laws of nature. We observe that under similar circumstances similar events happen, but between the events called cause and effect there is nothing more known to us than antecedence and sequence. The "effect" is not due to any inherent efficiency in the "cause," but merely follows it. We, it is said, only fall into the mistake of supposing the one event derives its existence from the other because it always follows it in the same conditions. The habit of associating them together leads to the error of supposing there was some force or quality in the one we name "cause" to produce the other which we name "effect."

Not as an argument, but in illustration of the differ-

ence, the theory of causation may be likened to a chain in which each lower link is upheld by the one above it, and the whole by the beam from which it is suspended. The other theory may be likened to the same links in the same order, and in contact, but each one not hooked into or dependent on the next above. Of course, we have no experience of the latter; but according to the theory of mere antecedence, there is no more efficiency in the cause to produce the effect than there would be in one of these links to support the next below it.¹

On this theory, which can still boast of adherents, I wish to remark,

(1) 'That it is argued on the basis of our *ignorance*. It is said there is nothing in the succession of events to prove efficiency in the antecedent. All that appears is

¹ It is said Hume was misunderstood, and that he taught the reality of efficient causation, but, following Locke's empiricism, held that our notion of it is derived from custom. Some of his language, taken alone, would seem capable of that construction. On the other hand, his language often plainly reduces causation to mere invariableness of antecedence, *e.g.*, "We may define a cause to be *an object followed by another, and where all the objects similar to the first are followed by objects similar to the second, or, in other words, where, if the first had not been, the second never had existed.*" Again, "A cause is different from a *sign*, as it implies Precedency, and Contiguity in Time and Place, as well as constant Conjunction." If this be all, there is no actual efficiency. Again, "Had it been said that a cause is that after which anything *constantly exists*, we should have understood the terms. For that is indeed all we know of the matter. And this constancy forms the very essence of necessity, nor have we any other idea of it" (*Essays*). If both opponents and defenders have misunderstood Hume as denying real efficiency, the fault was not entirely with them. It is, however, immaterial to my argument whether he did or not. My object is to refute the *theory* generally ascribed to him.

that they happen in a certain order ; therefore we have no right to infer therefrom any efficiency in the cause producing the effect. But all that is proved by this argument is that causal efficiency is not evinced by the external phenomena ; that is, we have no empirical proof from our experience of the phenomena.

Two things are to be noted here. *First*, nothing in the phenomena proves the *contrary* of real causation. The ignorance favours one side as much as the other ; that is, it favours neither. For aught it implies, there may be efficiency in the antecedent.

Secondly, it is still more important to observe that our knowledge of causation is not empirical, but intuitive. It is not derived from what is apparent in the succession of events, but from a necessary dictum of our minds. The objection, therefore, is irrelevant. V. Cousin, refuting Locke's teaching that our idea of cause is derived from sensation or observation of sensible vicissitudes in external objects, remarks, "Because a phenomenon succeeds another, and succeeds it constantly, is it the cause of that phenomenon ? Is that all the idea that you form of cause ? When you say, when you think that the fire is the cause of the fluid state of the wax, I ask you whether you simply understand that the phenomenon of fluidity succeeds the phenomenon of the approach of fire ; I ask you whether you do not believe, whether the entire human race does not believe, that there is in the fire a something, an unknown property, an explanation of which is not here required, to which you refer the production of the phenomenon of the fluidity of the wax." ¹

¹ *History of Modern Philosophy*, vol. ii., p. 208.

(2) If an event has no relation to what we call its cause, except that of sequence, it is *not dependent on its cause*. For (*ex hypothesi*) mere antecedence does nothing whatever for the effect but go before. Consequently, if what is called the cause did *not* go before, what we call the effect might still take place all the same, seeing it is not dependent on the cause; that is, the effect might happen of itself without the antecedent, which involves all the absurdities of self-origination. From the conclusion of self-origination we cannot remove a single step by bringing in a *mere* antecedent, since that would still leave the sequent to be absolutely its own cause, or source of being, unless we suppose every effect to be produced solely by the direct energy of God, in which case Theism is plainly taken for granted, and so is efficient causation, though it be all Divine.

(3) Our *consciousness* of causal power and efficiency proves that besides succession *there is* such a thing as efficient cause. Between my volition to move my arm and the motion of my arm I know there is, not only antecedence and sequence, but causation—that the one event not only precedes, but gives being to the other. It is but the application of the same principle to external events when, observing the explosion sequent to the contact of a spark with gunpowder, I say the contact not only precedes, but *effects* the explosion. Day follows night invariably, but is not caused by it. This alone does not prove the principle of causation, but it shows that the two ideas of succession and causation are quite distinct.

(4) If there be no such quality as efficient causation within the wide range of nature, it is pertinent to ask,

not simply how the idea became so general, but how it could ever arise at all, what analogy could suggest it. It is a conception so distinct and original that, if there be no corresponding reality, it is impossible to imagine how the human mind could ever first attain it. It were easier now to conceive the nature of a sixth or seventh sense than for our minds first to conceive the idea of efficient causation if there were no such thing.

It will not serve the theory under review to reply that the notion is derived according to our last section from our consciousness of exercising voluntary efficiency on our limbs, for that would admit the reality of efficient causation. Whether the idea is so derived is a question between those philosophers who agree in the reality of causal efficiency, some maintaining that the derivation of the idea is empirical, the rest that it is intuitive. The truth of the latter position appears in the fact that before it is likely to be reasoned out from consciousness of exerting power, children evince recognition of the truth that everything they see is caused. And this view is confirmed by analysis of consciousness, which associates a cause with every event.

Nor can the idea have originated from our knowledge of law as learned from the course of nature. The supposition of J. S. Mill, that in some distant world, events may succeed one another at random without any fixed law, if true, might have a bearing against the necessity and universality of order or rule; it could have none against causation itself. So far as we know, causation takes place according to fixed and uniform rule; but the two things, causation and rule, or law,

are distinct, both in their nature, and in their way of becoming known to us. Causation is the action; rule is the standard or line according to which the action proceeds. The idea of causation is forced upon us by necessary laws of mind; our knowledge of law or rule is gathered by the processes of observation and experience. The one is intuitive, the other empirical.

(5) It not unfrequently happens that opponents of real efficiency unconsciously betray their intuitive idea of causation by assuming the presence of efficiency, as when they seek to account for the prevailing idea of causation itself, tracing it to "*habit*," or to the laws of nature, or association. They evidently seek in these explanations, not merely some antecedent of the idea, but some efficient cause producing it. It is not uncommon for adherents of their view to resort to it in explaining the ordinary events of nature and society, though they demur to its use in support of Theism.

(6) The *explanation* of the order of events is *far less satisfactory* on the theory in question than on its opposite. The former confounds causation with the laws of nature. Its explanation is that there is a certain manifest order of nature according to which events take place—a uniform antecedence and sequence, *e.g.*, the falling of an apple, set free from the tree, take place because there is a law of gravitation pervading nature. It falls according to that rule.

Then it is obvious to ask, What causes the law? Why should bodies thus gravitate? Again, the laws of nature, as we have just seen, are not causation or efficiency, but only its established order of operation. The thing to be first accounted for is not that events are similar in similar conditions (= law), but

that there is any change at all (= active power), not the regulation, but the productiveness, and after that, it remains to ask how the regulation itself is to be accounted for.¹

The empirical school, which derives all our knowledge from experience, is opposed to all intuitive truth. To be consistent it is driven to assert that in some other part of the universe or at some future date two and two may not be four. But our thinking $2 + 2 = 4$ is a matter of constitution, not of gathered experience. Not by innumerable repetitions of the same thing under our own eye or the eyes of others, but before there is time for such experience, the mind even of a child, on perceiving the meaning of the signs, declares immediately the truth of the proposition. Although he may never before have associated the subject (two and two) with its predicate (are equal to four), he is certain the proposition is true. Tell him there are persons who think two and two are equal to five, yet his judgment remains the same. It is not so with empirical judgments—*e.g.*, in all the experience with which he is acquainted, denser bodies tend to fall, that is, are more powerfully attracted than rarer ones towards the globe to which they belong. But that it is so in every distant sphere, or will be

¹ Brown lays stress on "*invariableness* of antecedence"; but that is only the order or law of change, not its cause. While in opposition to Hume he regarded our notion of invariability as intuitively certain, he regarded himself as at one with Hume in denying all real efficiency, *e.g.*, "It is this mere relation of antecedence, so important and so universally believed, which appears to me to constitute *all* that can be philosophically meant in the words *power* or *causation*" (*Cause and Effect*, II, 12, 266).

so on earth at every future period, he is by no means so certain as he is that always and everywhere $2 + 2 = 4$.

Again, I just now know from memory that I yesterday suffered pain. But why should I depend on that declaration of memory? I find no reason beyond itself for trusting my memory. Yet I am infallibly sure it now testifies truly of my past experience. I am utterly impotent to reject its avouchment, even though there be no collateral or circumstantial confirmation. Clearly this dictum of memory is intuitive. To reply that my mind associates its present consciousness with the sensation of pain at a past time will not help the empiricist, for the association is still a present dictum of memory by which alone I know of my past pain. Yet to me this irresistible dictum rests on no evidence but itself.¹

The theory of "association" put forward by the school of J. S. Mill resolves all objects of knowledge into phenomena, and all connection of phenomena with each other into our mental association of them as the result of experience. Substantially identical with that of Hume, Mill's theory seeks to account for our notion of causality as a mere inference from experience. We, and all others so far as we know, having observed that a certain event (antecedent) in the same conditions was always followed by another certain event (sequent), are thus led to expect it will always be so in the future. But we have already seen that

¹ This argument is most ably elaborated by Dr. Ward, *The Philosophy of Theism*. In reply to Dr. Ward, Mr. Mill was obliged to acknowledge that at least memory is intuitive.

there *are* primary truths. Consequently there need be no difficulty in explaining causality as one of them. Mere association does not amount to an explanation. It fails to give a satisfactory account of the principle of causality which pervades all minds and cannot be dislodged. The intuitional explanation is real and complete. The explanation by mere "association" is a tacit resort to efficient causation, which is the thing it affects to disprove. In accounting for the idea of causality, our expectation of a certain order of events is treated as the effect, and our knowledge of past experience as the efficient cause of the expectation. The one produces the other. So natural is the principle of causality that its enemies unwittingly act upon it, even when aiming at disproving its existence.

The suggestion, favoured by Professor Huxley, that God's veracity is no guarantee of the truthfulness of our necessary judgments, but that God or some powerful and malicious being may find pleasure in deluding mankind, is refuted at a stroke by Dr. Ward: "To say that mendacious faculties can be infallibly known as trustworthy is a contradiction in terms. No possible Creator could any more achieve such a result than he could form a crooked straight line."¹ Even if He could, we should be still bound by our nature. The suggestion of delusion cannot make us think the opposite of what we are now compelled to think. After the suggestion is made that we are constituted to feel certain that $2 + 2 = 4$, while in truth it is not so, we are as much compelled to feel certain of the truth of the proposition as before. Moreover, the veracity of the

¹ *Philosophy of Theism*, ii., p. 16.

Creator is not necessary at this stage of our inquiry. Before we say whether there be a Creator, we are authorized to affirm that the human mind is so constituted that, as occasions arise, there are some ideas of the truth of which it cannot but be certain, though they be attested by no evidence except their own light.

3. POWER.

The idea of causation is that of *active power* or *force* in what we call the cause. When the mind asks for the cause of a thing, it means the potency out of which the effect comes. To suggest anything as the cause which has no quality or power to produce the effect is to disappoint the demand of a cause. The answer no more satisfies than none at all. It is the offer of ignorance instead of knowledge. So far not a single step is made towards accounting for the effect, nor ever until a productive or causal power is found; or if not found, the inquiring mind is confident that unless such power had existed, the event to be accounted for could not have occurred. The necessary judgment that the event was caused is only another way of saying there must have been some pre-existing power. A ship, for example, glides over the waves of the sea. In saying something causes the motion of the ship, we mean nothing less than that its motion is the result of some power brought to bear on the ship, whether it be the wind in the sails, or the steam in the engine.

If there be no power, there can be no effect. Mere antecedence is not power, efficiency, or cause. Cause without power is meaningless.

Reverting to the causal action of our own will, of which we have a better knowledge than of any other

case, we are conscious that in willing to move the arm, or to speak, our will exerts a power over the arm or the vocal organs without which there would be no causation. Exclude the idea of active power, and the idea of causation vanishes.¹ The mind in quest of causes is not, as Dr. Brown affirms, satisfied with antecedents as such. When in this pursuit a child is content to be told the moon causes the tide, it is not with the idea of the moon as in its motion merely anteceding the tide, but as exerting an influence upon it. The search is for power, not for a mere antecedent. Mere antecedents, whether invariable or not, may silence, but cannot satisfy the demand.

4. SUBSTANCE.

The true notion of causation involves a *substance*, entity, or real being, to which the power belongs. An event is nothing in itself but the state or condition of some real being or beings. Phenomena are the objects of our perception, but they are not substances. All the changes we call phenomena are underlaid by, that is, they are the manifestations of something having real being. They without it could not appear, or happen, or be. Even on the most idealistic theory, they imply a substance in the subject perceiving them.

Thus power cannot subsist of itself. It is an abstrac-

¹ Sir W. Hamilton successfully controverts Reid's view that our notion of causality is derived from our experience of causing by volition, and shows that it is not empirical, but a primary truth. We have it apart from and prior to experience, which is but a confirmation and elucidation of the idea. Hamilton's erroneous theory of the idea as merely the result of mental "impotence" is ably refuted by Calderwood (*On the Infinite*, p. 346).

tion, and, apart from substance, it is nothing. It is the power, not of nothing, but of something. It must inhere in substance. It could no more exist alone than could thought or weight. As in thought there must be something which thinks, and in weight something which weighs, so in power there must be something to which it belongs.

To say the power to produce an effect belongs to a substance is the same as to say the substance has the property, attribute, or quality to produce such effect. Power, being an attribute, must be attributable to something. It cannot be simply the attribute of an attribute, the quality of a quality, the property of a property. It must be the attribute of a substance.

As attribute it may be quiescent or active. It is not a cause, except potentially, until it comes into action, for unless it act, no effect can ensue. We know substances by their attributes only. But we *do know* them nevertheless. It is equally true that we cannot know attributes except as belonging to a substratum, or real being. Thus causation is the energy or operation of the power of some substance or being. Hence it is fitting to speak of the substance or real being as the cause of the effect produced by its power in action. The backward order of these ideas as set down by Kant is effect, cause, action, force, substance.¹

¹ *Pure Reason*, p. 151.

It is said that heat is not matter nor material, and yet it has "objective reality" and "objective existence" as truly as matter, meaning "not it is something which exists altogether independently of the senses and brain processes by which alone we are informed of its presence." Along with this view it is held that heat is motion. If the word "existence" in this definition may be taken in its popular sense, and

5. ADEQUACY.

The intuitive principle of causality demands productive power *proportionate* to the effect. The force which lifts one hundred pounds from the ground must be at least the force of one hundred pounds. The weight in the one scale, which tilts up the one pound weight in the opposite, must be more than one pound. The force of the breeze, which propels the barque, must be greater than the forces that resist it. The cause cannot give more than it possesses. The effect may be different from its cause, whether that be simple

not confined to an entity or substance, heat may be allowed to have "objective existence," but not in the same sense as matter. Motion is action, and if heat be that, it is not a real thing, but the motion or action of something. Matter is an entity; heat is a property or state of an entity. Heat or motion is a material property, because it is congruous with matter, and no other substance. That which is extended, and changes from one portion of space to another, is material, for these are characteristics of matter. Not only is heat found in matter, but apart from matter it is inconceivable.

It is true we can think of matter as without heat, but not of heat as without matter, showing that while heat may not be a necessary property of matter, it is at least a property with which matter is endowed. Heat has an objective existence much in the same sense as the thinking of other people has to me. Neither the heat nor the thinking is a substance or entity; but both are states of substances, namely, of matter and mind respectively.

Professor Tait argues that as we know matter to have "objective existence" because we can neither create nor annihilate it, in like manner heat has objective reality for the same reason. The argument may prove that the totality of heat in the universe is always the same, and must be taken into account, as in the case of matter. It does not prove that heat, like matter, is a substance, or more than a property or state of a substance, any more than extension is a substance because it is coeval with the substance in which it inheres. See *Tait's Recent Advances in Physical Science*, pp. 44, 45, 47, 48, 55.

or complex ; but it cannot be greater. All it is or has is derived from its cause. Oxygen and hydrogen united in certain proportions produce water, which has characteristics not possessed by these gases as such ; but there is nothing in the water which was not in the oxygen, hydrogen, the uniting power, and all other powers that contributed to the result.

If a substance begin to exist, there must be a cause adequate to its origination. Or if it be the subject of change of state, the cause must be sufficient to effect the change. If thought, feeling, or conscience arise, the efficiency of the cause must be adequate to the result produced.

In the material world this truth is illustrated by the conservation of energy. Any amount of energy expended on a particular thing is exactly so much abstracted from another part of nature. The energy which turns the water-wheel was all pre-existent, in some other form, and has been imparted by what we call the causes of the wheel's revolution. Had less force been derived, a less effect would have been produced.

The less cannot produce the greater, the inferior the superior. Where it may seem otherwise, as where by evolution the combinations of matter are developed into higher forms of existence, we overlook some of the causes contributing to the result. For example, the void surface of the globe becomes clothed with vegetation. But, apart from the question of the supernatural origination of life, in seeking for causes, we must take in all the possibilities previously in the seed, the particles of the soil, moisture, light and warmth of the sun. The improvement comes as the consequence of *all* the causes affecting the result. While (still on

the assumption of no supernatural interference) their powers in confluence produce the grand effect, such potencies were previously stored within the bounds of material nature. The result is only the development of potencies which were already in nature, as was also their capability of development. Thus, on the hypothesis of materialism, nature, with its potentialities, was never less than it is to-day; while on the hypothesis of an almighty Ruler, any accessions of power or excellence derived to the universe can be ascribed to His energy, so avoiding the conclusion that the less has produced the greater.

In one sense the cause is always precisely equal to the effect; that is, the amount of power *actually* engaged in producing the effect must be the same as the effect. The energy is tantamount to the effect. In this sense the cause is not the amount of power possessed, but the amount put forth in action.

In another sense, the power in the cause, that is, in the being which causes, may be greater, though never less, than that required to produce the effect. A steam engine of only one thousand horse power can never drive machinery requiring a higher motive power; but it may drive machinery requiring only eight hundred, though in that case the force actually *imparted* to the machinery is not a thousand, but eight hundred. The amount expended on the effect is just the amount required, whatever may be the amount in reserve. I may be able to lift two hundred pounds, but may actually lift only one hundred. Strictly speaking, the effect is equal to the energy or active power which produced it, though it may be much less than the total power of the agent which caused it. Thus, on the assumption of a finite

creation by an infinite Creator, the degree of actual causation is the same as that put forth in the act of creation, while the amount possessed by Him who creates is infinite.

To speak accurately, a cause inadequate to the effect is no cause of that effect at all, though it may have a tendency towards it. The force only just sufficient to move a body of one ton cannot itself be the cause of moving one of two tons. Its one ton pressure no more moves the heavier body than nothing moves it. So far as there is no effect there is no causation. Adequacy is essential to the very idea of causation. To say every event must have a cause is the same as to say it must have an adequate cause. It could not be a cause without adequacy.

6. MORE THAN SECOND CAUSES.

The principle of causality cannot be satisfied with merely "*second causes*." These are simply the intervening links between the last effect and the real or original cause. Each one in the succession, however extended, depends upon its predecessor for all its causal productiveness, and only gives what it has received. The last carriage of the longest train is not moved by the next before it, except intermediately and instrumentally, but really by the engine at the front. When pointed to a second cause as such, the mind in quest of a cause is no more satisfied than before. It still demands the cause of the intermediate cause; and whatever number of such causes be retraced, the demand of a cause sufficient of itself to account for the effect remains. Never till that demand is met is the real cause reached.

Say frost is caused by a reduced temperature; the mind still requires a cause of the lowered temperature.

Ascribe that to the greater distance of the sun, or its more oblique angle to our earth: it still asks, why the greater distance, or more oblique angle? Ascribe that to the position of the earth in its orbit, and that again to the influence of gravitation, and it yet again asks, why those influences? And if undiverted by other questions, so on through any number of second causes, finding its goal and satisfaction only in an original and sufficient cause. Of course the mind may cease its formal inquiries long before attaining the remoter stages in the train; but the principle of causality is not thereby satisfied.¹

7. NO INFINITE REGRESSION.

Consequently the mind is not satisfied with "an infinite regress" of causes—an endless series stretching backward from the present, and without beginning. For then, however many steps backward the search travels, it never gets nearer what it requires. Tell the mind acting under the influence of this necessary judgment the chain of second causes traced backwards is endless, and that there is no cause sufficient of itself, and its peremptory answer is, there *must* be a sufficient cause. Any number of merely second causes cannot altogether make up a sufficient cause. They only give what they receive. There must be one beyond them all, which gave what it did not receive.

Nothing less is implied in the axiom that every event has a cause. A second cause, which has none

¹ In reply to Kant's contention that causation requires an infinite regress (which, however, he considers impossible), Dr. M'Cosh pertinently observes that the intuitive demand of a sufficient cause rests satisfied when it reaches the idea of a substance adequate of itself to produce the effect. Nor can it be satisfied with less (*Divine Government*, p. 350)

but borrowed efficiency, is not a cause in the sense intended. The causal principle seeks a resting place in something really efficient, which accounts for the effect, yet needs not to be itself accounted for; that is, a cause which is not itself an effect. To point it to anything less is to attempt to quench its thirst by the mirage. The mind may be unable to *find* any but second causes, yet it remains certain of a really efficient cause somewhere.

An eternal regression of causes, which is the same as an eternal succession from the past to the present, is self-contradictory. "The law of contradictions" is that a subject cannot have a predicate which contradicts it, such as, An existing thing is non-existent. So in the proposition, A series is infinite, it is predicated that a number (the subject) is numberless, in other words that a finite thing (a series or succession, which must be finite) is infinite. Further attention will be given to this point in Part III.

8. PRECEDENCE OF CAUSE.

In point of time the cause must *precede* its effect. It has been said, the causal energy no sooner exists than its effect exists. But that is more than questionable. If it were true that no appreciable time elapsed *between* the exertion of power and its effect, the effect would still be subsequent.

To show how the effect may be simultaneous with its cause, Kant illustrates by the warmth of a room caused by the fire in the grate, asserting that the effect—the warmth—is simultaneous with its cause—the fire in the grate. The example fails. The warmth I now feel in the room is due to the heat radiated from the fire some time ago. The heat radiating at this instant

from the grate can only be felt in the room at a future instant.

If the effect be simultaneous with its cause, so is that effect, as a cause of another effect (for each effect in its turn becomes a cause of something else); and the second effect is simultaneous with the first, the third with the second, and so on to the thousandth, thus making the last effect in the longest series simultaneous with the first cause in it; that is, the effect resulting to-day from a series of causes stretching back ten thousand years is simultaneous with the first cause in the series, which our intuition of time forbids us to believe, and it equally forbids us to believe the proposition which involves the absurdity, namely, that a cause does not precede its effect.

But even if it were granted that the *actual* efficiency or exercise of power was simultaneous with its effect, it would remain true that the *substance* or *being* which causes must precede the effect. That of which the power is a property must exist before it affects something else by that power. Whether or not the radiation from the fire precede the warmth in the room, the fire itself must exist before the warmth it produces. To refer to another of Kant's examples, the leaden ball placed on a soft cushion, and thereby causing a hollow, must certainly exist before its effect—the hollow. That in which the causal power inheres must exist before the effect which the activity of its power produces.

It is surprising that one of our foremost physicists, Professor Tait, should on this subject indulge in a strange piece of denunciation. These are his words: "The only other fallacy which I shall mention for the present is that of basing physical results upon the old dog-Latin dogma, *Causa æquat effectum*. It is difficult

to decide whether the Latinity or the (semi-obscure) sense is in this dogma the more incorrect. The fact is that we have not yet quite cast off that tendency of so-called metaphysics which has often completely blasted the already promising career of a physical inquirer. I say, 'so-called' metaphysics, because there is a science of metaphysics; but from the very nature of the case, the professed metaphysicians will never attain to it. In fact, if we once begin to argue upon such a dogma as the above, the next step may very naturally be to inquire whether cause and effect are simultaneous or successive."¹

It were to be wished this paragraph were merely intended to guard the inductive method, and to restrain the employment of metaphysical principles in solving physical problems; but the condemnation is directed against the "dogma" itself, not merely its application to physics. I am not concerned about "the Latinity," but the correctness of what has hitherto been accepted as an axiom. As expounded by Sir W. Hamilton and other philosophers, there need be no "semi-obscurity" about it.

Professor Tait makes no attempt to show its fallacy, his reprehensive words notwithstanding. So far from his doing this by intimating that it might lead to the question of precedence, I regard both questions as intelligible and important. How, "from the nature of the case, the professed metaphysicians will never attain" to the "science of metaphysics," is "obscure." As to being "mystified" by asking if the cause be adequate, and antecedent to the effect, mystification is much more likely to arise from *not* asking these questions.

¹ *Recent Advances*, pp. 11, 12, 35.

If the paragraph was intended simply to keep physical and metaphysical sciences to their own provinces respectively, very different language might have been used. If the object was to warn metaphysicians not to investigate metaphysical questions, and not to rely on any but empirical guidance, it was an attempted monopoly in behalf of empirical investigation to which reason cannot submit.

That every effect must have an adequate cause is so imperatively demanded by the necessary laws of thought, that no principle has greater right to a place in the true "science of metaphysics." Professor Tait's paragraph might have been written by Lamarck, who refused to inquire into the cause of laws. But surely his refusal need not induce other people to ignore a question so profoundly interesting.

Causa æquat effectum may be no *à priori* guide to effects, as it affirms nothing respecting the quality of an effect. All it affirms is adequacy or proportion. It does not profess to "discover anything" in physics, but it insists that what is discovered shall not be ascribed to an incompetent cause.

The denial of this principle involves the denial of another, *Ex nihilo nihil fit*, which accordingly Professor Tait denies with equal positiveness,¹ a denial which is tantamount to asserting that a thing may arise of itself without any other cause. Principles so manifestly rooted in our primary beliefs are not to be thus easily set aside.

Professor Tait seems to assume that these two principles are contrary to the experimental methods by

¹ Pp. 54, 57.

which Colding and Joule ascertained the conservation of energy.¹ But there is no contrariety whatever. In no such case is the effect greater than the cause, or without a cause. Tait's rejection of these two requirements seems to imply the possibility of something arising of itself from nothing, or partially from nothing; that is, so far as the cause is inadequate.

The idea of proportion in the cause betrays its presence in Professor Tait's own reasoning on physical nature, *e.g.*, giving Newton's second law, he says, "Change of motion is proportional to the moving force, and takes place in the direction of the straight line in which the force acts."²

"Nothing," says Professor Tait, "can be learned as to the physical world save by observation and experiment, or by mathematical deductions from data so obtained."³ This "all-important principle" interdicts the use of psychological "principles," which are as much a part of nature as "the physical world," and which may, as legitimately as mathematics, be applied to physics, not instead of induction, but along with it. If, by the laws of thought, the mathematical principle that *the whole is greater than its part* must be observed in reasoning about the physical world, by the same laws the metaphysical principle that *a thing cannot both be and not be at the same time* ought to command equal respect. Just so, too, in physical or spiritual nature, the principles that *nothing can begin to be without a cause*, nor *without an adequate cause*, are equally true. If, for instance, the experiments of the physicist pointed towards the conclusion that an event happened without

¹ Pp. 57, 58.

² P. 351.

³ P. 342.

an adequate cause, he would have reason to pause, and reconsider his facts or his reasoning, with the object of finding some flaw; for his primary beliefs would tell him there must be an adequate cause, whatever became of his experiments or his induction. It is true, as Professor Tait says, "reason unaided by the senses is totally helpless in such matters" as physics. But the converse is also true—the senses are equally helpless unaided by reason and primary beliefs.¹

9. PARSIMONY.

The law of *parsimony of causes* requires that the number shall be as few as possible. While insisting that every event is caused, the laws of thought are averse to the assumption of more causes than are necessary. Sir W. Hamilton calls this a "primary presumption of philosophy." When an event can be explained by a few causes the mind prefers them to many, and is still better satisfied if it can reduce them to one. Hence in accounting for things, it naturally seeks to reduce the number of causes. "*Entia præter necessitatem non esse multiplicanda.*" It is this logical law which prompts men of science to reduce the facts of nature to classes, species, and genera, according to some one characteristic under which many individuals may be united. Great, therefore, was the relief afforded by the discovery that all the manifold and complex

¹ "It is clear to my mind that there is such a thing as adequacy. Not, of course, that one can always know *à priori* what the effects of any change will be; but we can sooner or later know *à posteriori*, not only that certain effects have followed from certain causes, but how it is these causes have been able to produce such effects. . . . In short, '*Nemo quod dat non habet*'" (nothing can give what it has not) (Mivart, *Nature and Thought*, p. 201).

motions of the earth and the heavenly bodies were due to the one simple force of gravitation.

It has often been argued in Natural Theology that the display of the Creator's wisdom in nature is enhanced by the fact that many results may be traced up to few and simple causes. It is deemed greater to produce many results by means of a few streams of energy, and according to a few simple laws, than by many. This preference for economy of means is repugnant to the putting forth of more power than is necessary to the accomplishment of the end, which would derogate from the wisdom of the proceeding.

In the foregoing observations it has been convenient to speak of each effect as having a cause, not, however, forgetting the fact that ordinarily it is the result of several second causes. If we inquire for the natural causes of the apple on the tree, we refer to the twig, leaves, branch, trunk, root, and sap of the tree, the sun, atmosphere, chemical ingredients of the soil, and the seed or graft, all of which, with many remoter influences, contributed to the simple effect of the mature apple. In analyzing the causes of an oral speech, we have to think of the vocal organs and many physical and mental processes, and so with most of the effects of daily experience. A higher sense of cause excludes all but such as are real and original—the action of a producing agent. But at present our reference is more particularly to second causes.

Nevertheless our mental constitution impels us to seek for *unity* of causation. If at first our pursuit widens in all directions, it afterwards converges towards a single point. At the phenomenal stage the causes may seem to multiply like the many feeders of a river

On reaching the *substance* or basis of phenomena, the materialist sometimes fondly fancies the multiplicity is resolved into unity. His idea of causality seeks rest and satisfaction by tracing all the countless events of the world up into the one substance matter, with its very few essential properties; but on reflecting that matter is not one simple being, but as many as its parts or atoms, he finds reason to push his quest still further back beyond matter ere his mind can rest in the discovery of the one simple cause. Under the same intellectual tendency, the still more subtle and inscrutable operations of mind are traced back by the psychologist to the one substance spirit, with its few necessary properties.¹

When one or a few causes will sufficiently account for an effect the mind rejects any other as excess. Its maxim is, The fewer the better if adequate. The influence of this tendency is observable among all classes of thinkers, the irreligious and sceptical equally with the devoutly believing, as when the former seek to resolve all the operations of nature into physical energy, or all forms of life into protoplasm, or all animal species into a common origin, or all matter and spirit into one substance. On the same principle, philosophers seek to exclude all causes which can be dispensed with.

¹ Dr. Calderwood contends that the cause of a thing, *e.g.*, a statue, is not the pre-existing materials, but the agency which changes their mode of existence. In a looser sense, it is not uncommon to speak of all that was necessary to the result, or made tributary to it, as causing it. This corresponds to Hamilton's definition of cause, as "everything without which the effect would not result." The latter is not far from the truth as to second causes, the former as to real and original.

From the same tendency the mind seeks a simple cause beyond the complex. Thus when so many causes combine harmoniously to produce the apple, our idea of causality leads us to look beyond them for some one simple cause of this harmonious combination and fitness of so many diverse things for the production of the one effect. It sees that their mutual congruity and concordant action cannot be merely the result of as many sources of power, but must have a common origin.

10. FINAL CAUSES.

The ends or reasons for which things exist, or events happen, are named *final causes*. They are closely related to efficient causes, but connect themselves more intimately with creative or designing mind.

In final causes we observe, not only the effect of efficient power, but also the *reason* for such exercise of power. A final cause is the end in order to accomplish which power is seen to work. We call it *final* because there is an end for which causation, as a means, works. We call it a *cause* inasmuch as it is supposed to be the motive, or ground in the mind of the author of the event, causing it to act as it does. A *reason* for doing a thing is an intellectual cause of its being done. A peculiarity of a final cause is the intended fitness or adaptation of one thing to produce another, more especially a good or desirable end.

But the principle of causation is the same here as elsewhere. The eye is the effect of efficient causation, and its action is the cause of seeing, and again seeing is the cause of knowing external objects, and again knowing them is the cause of enjoying them. These are successive stages of causation. But because seeing,

knowing, and enjoying are manifestly desirable ends, we superadd the idea of causation acting according to *design*, or in the way of adapting one thing as a means to effect another as its end.

This accompaniment of causation constrains us with the greater confidence than is inspired by the mere exercise of power to seek an *intelligent* cause ; for it is seen at once that nothing less is proportionate to the effect.

The general conclusion is that every event is caused by the exercise of the sufficient power of some antecedent being or beings, and that more causes than are necessary to produce the effect are inadmissible.

I now propose to apply the particulars of this conclusion, as a lemma, in proof of the existence and attributes of God, at the same time supplementing the inferences they warrant by any other that may logically dovetail with them, and tend to augment the total strength of the Theistic position. My chief object is, not to develop fully the doctrine of causality, but to use it in subservience to the doctrine of God revealed in nature, and thus indirectly to the truth of Christianity.

To a great extent the Theistic conclusion is virtually secured in the propositions already established. So surely do they involve the certainty of Theism that some Atheists have admitted that if the principle of causation were known to us, the existence of God must be admitted as a consequence. Hence their antagonism to the doctrine of causality. Comte could only avoid the evidence of a First Cause by asserting that we know phenomena, but nothing of causes.

This assumption is not only without proof, but condemned by proof to the contrary derived from our consciousness of voluntary causation, and from our intuition of causality. As Professor Flint remarks, Comte could not but know he was himself a cause of Positivism.

PART III.
THEISTIC EVIDENCE.

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PANTHEISM and Atheism are alike incapable of proof. They can never be more than assumptions. Hence they sometimes disparage the method of ratiocination and evidence. If Theism rested on no better ground than they, it would be equally worthless. As Dr. Conder remarks, "Theism . . . is nothing if it be not capable of proof."¹ It asks no credence to which it is not entitled, but claims acceptance on the solid basis of clear and positive evidence.

Proposition 1. The Present Universe is the Effect of a First Cause.

By the universe, or the world, is intended the whole system of things known to us by means of our natural faculties, including ourselves and external nature, not merely the facts which we immediately cognize, but also those we infer by generalization. It includes matter and mind, with all their laws, operations, and ever-changing relations—the heavens and the earth, with all things contained therein, as apprehended under the idea of nature.

¹ *Basis of Faith*, p. 59.

Every part of the universe is characterized by *change*. "The everlasting hills," as truly as the restless atmosphere, are in perpetual action and reaction. Whether it be by silent and gradual process, or sudden upheaval and rupture, "the foundations of the earth" are subject to the law of incessant mutation as completely as the ascending and descending waters. The correlations of the parts of which the world consists are every moment changing. The ceaseless functions of the human body from birth to death may be taken as typical of the changefulness which pervades all nature. All human intelligence and feeling are a succession of changes. Nowhere within or without ourselves can we find a point of the universe exempt from this law.

But every change, whether it be the commencement of being or a new state of being, is an *event*, a becoming, an effect. By the constitution of our minds we are unable to contemplate such a world without inquiring for a cause to account for it; and failing to find it, we are none the less certain there must be one. Were the world ever so insignificant, or our knowledge of it ever so scanty, our intuitions would still insist that it must have a cause.

This demand becomes still more imperative as we think of the exquisite beauty, the manifold adaptations, harmonies and utilities, the sublime magnitudes and microscopic wonders, the vast yet mathematically regulated forces, the precision, invariability, and universality of law, the unity of plan and marvellous order pervading the whole. Our grateful admiration, increasing with our increase of knowledge, adds force to the question, *What* or *who* produced it all? Whence this magnificent world? What or where is the cause?

So necessary is the idea of a cause that the wondering mind stops not to ask whether there be a cause. That admits of no dispute. The immediate question is, *What* is the cause?

If there must be a cause proportionate or sufficient, it must be anterior to, and greater than all second causes; it must be the First. The argument may be thrown into the form of a few syllogisms, thus:—

1. Every event is the effect of a cause sufficient to produce it. The state of the present world consists of many events. Therefore the state of the present world is the effect of a cause sufficient to produce it.

2. Every sufficient cause of an effect must have had sufficient power of itself to produce the effect. The cause of the present world is a sufficient cause. Therefore the cause of the present world must have had sufficient power of itself to produce the present world.

3. An effect could not be produced by merely second causes. The present world is an effect. Therefore the present world could not be produced by merely second causes.

4. What is not produced by second causes only must be the effect of a First Cause. The present world is not produced by second causes only. Therefore the present world is the effect of a First Cause.

What other than the Theistic solution will account for the world as we know it?

(1) *Chance?* The theory that the world is the effect of chance has hardly any serious defenders, and need not occupy our attention. If chance could be a cause at all, the probability that such a world as ours could result from it is less than infinitesimally small. It were more probable that bits of metal should by chance take

the shapes, sizes, and places necessary to produce, not one, but millions of watches, without the application of human skill or design.

Chance is the absence from causation of plan or intelligent control. It supposes efficiency at work without law or order, producing that which efficiency can only produce when working under law and order. Chance is the negation of intelligence in causation. The negation is no cause at all. The mere efficiency it leaves is a most inadequate cause, not for effects, but for *such* effects as the world displays—such as force devoid of intelligent regulation cannot cause. Chance does not find a cause for the world; it simply abstracts intelligent guidance from force. But how such blind disorderly force should produce universal order, or why it should produce any one result rather than another, is inconceivable. The theory of chance utterly fails to assign an adequate cause of the world.

(2) *Necessity*? The same holds good of necessity, or fate. To attribute the production of the world to necessity is to attribute it to an abstraction. The only intelligible meaning we can attach to it is that something operated necessarily in producing the world. It affords us no light as to what the "something" was. Chance and necessity are not substances, nor powers, nor energies, nor efficient. They are merely alleged modes in which power is supposed to act. They leave us perfectly ignorant of what the causal power is. Necessity, instead of telling us what caused the world, simply tells us it could not but be caused. It is thus irrelevant to our question.

(3) *Self-caused*? Nor is any solution found in the idea that the universe is self-caused. That idea does

violence to the necessary judgment that every effect must have a sufficient cause; for it really assigns no cause. An effect may, in its turn, become the cause of another effect, but not of its own existence. To affirm that a thing is self-caused is to imply that it acts before it exists, which is absurd, seeing the cause must precede its effect. Self-origination can only mean that a thing begins to be of itself, that is, without cause, which is unthinkable, and contrary to the necessary intuition of causality. It is forbidden by the axiom, *Ex nihilo nihil fit*.

Some choose to speak of God as self-caused, meaning self-existent, not that He began to be of Himself, or without cause. The phrase is unnecessary, and may mislead.

(4) *Infinite regress of causes?* Shall we adopt the theory that the present universe is the effect of a universe preceding it by a moment, or a cycle, and its predecessor the effect of the next earlier, and so on backward eternally, without any cause more real and sufficient than the present universe? That would be an *infinite regress* of merely second causes—a chain of causes stretching from the present into the past eternally.

(i.) That cannot be; for a second cause has no real efficiency, and so is not a proper cause. It is but the medium through which efficiency passes. Of itself it has no power, and could produce nothing. And nothing multiplied to any extent is still nothing. Any number of second causes are of themselves as inadequate as any one of them. An endless series alone could not effect anything, because there would be proper cause neither in any part of it nor in the whole.

A second cause presupposes a First, not merely from the use of the words second and first, but from the nature of the things represented by the words ; that is, a First, or one properly sufficient of itself. A second can only become such by deriving efficiency from an original and true efficient. Every second cause is dependent ; and therefore so is any number or series of second causes, which would be impossible if there were not something else for the whole series to depend upon.

(ii.) Again, an eternal series of causes backward is, as we have seen, *absurd*, according to the "law of contradictions," which forbids a subject to be contradicted by its predicate, *e.g.*, a living thing is without life. To say a series is infinite is to say a number is numberless, or a combination of individuals is more than a combination of individuals. A series or succession, however long, is finite, and consists of so many units or parts. To call it infinite is to affirm that a limited thing is unlimited. No increase or multiplication of the conception of individual portions can give the conception of infinity, which is absolute, and cannot consist of parts. Indefinite a series may be, but not infinite.

(iii.) A series infinite is absurd because it is *unthinkable*, not in the sense of our being unable to comprehend it all, as we are with infinite space and duration, though we may have a clear conception of both, but in the sense that it is unintelligible. The proposition bids us think of a chain consisting of different links, having only one end, namely, the present. This is a very different conception from that of a series beginning in time and continued always in

the future, adding link to link without ceasing. Looking to the future, we can think of a succession commencing now, and always extending, yet never actually *become* eternal. It is always limited, though always increasing. But the proposition of an infinite past series asks us to conceive of it as actually, not extending, but already extended without limit, a thing, moreover, completely infinite, yet every moment increasing. We can think of duration without limit, but not of an infinite series. We may conceive of a portion of duration or time, and divide *that* into parts, such as moments or years; but we cannot conceive of eternity as consisting of parts. But (*ex hypothesi*) the series in question must consist of parts; therefore it cannot be conceived of as eternal.

(5) *Cause of all in substratum of matter?* Shall we, as Mr. J. S. Mill suggests, find the cause of the present world in the permanent, immutable, and eternal substratum of the universe, that is, the substance of matter? According to this theory, all the changes or effects which happen are in the *state* or *condition* of the substance, while the substance itself is always the same, all the changes being produced by the substance as first cause. The theory is untenable for the following reasons:—

(i.) It is merely an *assumption* unsupported by a tittle of evidence, and is only invented in order to evade the proof of God in nature.

(ii.) Its fallacy appears if we duly bear in mind that it *assumes all matter to be one being*, with a simple indivisible entity and substratum, of which all phenomena and events are manifestations. But, in fact, matter consists of units or atoms too many to be

imagined, each atom conceivably divisible without end, and each smallest part having its own dimensions, substratum, and entity.

Hence there are in matter as many entities and substrata as there are ultimate atoms. Every molecule is at least one distinct and real substance. Consequently the permanent base and First Cause of all effects cannot be a simple material substratum, seeing the material world is a combination of innumerable beings.

The law of parsimony, which requires the fewest possible causes, and tends to resolve all into one, is grossly violated by this theory, although the boast of Materialism is that it accounts for all things by the fewest causes. Dispensing with all but matter, it promises to lead us to unity of causation in the one material substance. In the end it turns out that its unity is an incalculable multiplicity.

Further, the phenomena are the effects of the mutual correlations of the ultimate atoms. But what causes the correlations? Should it be answered, The intrinsic properties of the several atoms, it remains to ask, Whence their properties? How came so many different atoms to be all constituted to suit each other, so as to unite into a consistent, homogeneous whole, and to act in harmony? What caused their reciprocal relations, extending throughout the universe? This theory leaves the mind still in search of a First Cause, which is evidently something beyond the substratum of matter.

(iii.) In the events of the world it is not something other than matter which changes, but *matter itself*, so far as it is known to us. *It* is constantly changing. The essence or substratum does not cease to be the essence; but it exists now in this state, then in that,

now here, then there, now in this posture, then that, now at rest, then in motion, now compressed, then expanded. The subject of change is the matter, not something else. If God changed in any such wise as this, we could not say He was immutable. Neither is it true to say the substance of matter is unchangeable, so long as it is the subject of change. Again, therefore, there must be some cause of changeful matter besides itself.

(iv.) Looking at matter as such, there is nothing in it *sufficient* to account for the events of the universe. Permanence would not be enough; there must be adequate efficiency. If the substratum of matter be the first cause of all, it must be sufficient of itself to produce all; that is, all effects must be potentially in matter. In other words, all are to be accounted for by the essential properties of matter.

Among these are extension (it must occupy space), impenetrability (two bodies cannot occupy the same space at the same time), divisibility (in thought, whether in deed or not, the smallest portion has sides and dimensions, and is conceivably divisible). These are necessary properties because we cannot conceive of matter without them. But are they, with all of their class, sufficient to account for all the facts of the Universe? Are they proportionate to such a result? Are all changes but modifications of these properties? Are they adequate causes of gravitation, energy, motion, organization, life, intelligence, conscience, sensitivity, morality, religion?

Their utter inadequacy is clear from their incongruity as causes with most of these effects. No degree of extension, resistance, or other essential property of

matter, has the slightest fitness to produce thought, conscience, or will. If all effects be but modifications of those essential properties, an effect can contain nothing but some forms of those properties. But manifestly it is not so in fact. Consciousness, life, happiness, righteousness, are not forms of such properties as extension and impenetrability. Consequently, the attempt to make the essence, or essential qualities of matter the first cause of all things breaks down.

Moreover, if it were granted that all effects are mere modifications of the essential properties of matter, we should still have to account for the modifications. Why are they modified at all? Why in the present particular way? By what cause? The properties take different modes as they are acted upon, not simply by their essence, but from without. This shifts the cause of the changes from the substratum and essential properties to something else. Therefore, again, the substratum is not the First Cause.

(v.) Further, *inertia*, or absence of self-action, is a property of matter as known to physical science. It can neither start nor stop itself. It is always passive. It may be acted upon in ten thousand ways, with as many different results, but cannot originate its own action. How then can it be the original cause of its own changes? Evidently a cause distinct from itself is necessary. It may be answered that there is an internal *motion* of the ultimate particles of matter, of which many phenomena are the result. But that is superadded to inert matter, and cannot be claimed as produced by the substratum. Nay, it raises for the Materialist another unanswerable question, how is this superadded force to be accounted for?

(vi.) Not the least assumption of this theory is the *eternity of matter*, without which the theory cannot hold for a moment. For if matter be not eternal, it demands a prior cause to account for its beginning. But its eternity has never been proved. It is a mere hypothesis brought in for the purpose of avoiding the evidence of a Creator.¹

Mr. H. Spencer's attempt to disprove creation need not give Theists much concern. "The creation of matter," he writes, "is inconceivable, implies the establishment of a relation in thought between nothing and something—a relation of which one term is absent—an impossible relation."² What is the meaning here of "relation"? Were it a *causal* relation between no-

¹ Professor Mivart (*Nature and Thought*, pp. 181-2-4) doubts whether reason alone can disprove the eternity of matter, but forcefully contends that, if eternal, the universe must have been always as now a "multifold" universe, made up of many parts, forces, capacities, and laws. But such a universe could not be uncaused, it must be eternally dependent on some absolute cause. The innumerable elements, each eternal and independent, could never correlate themselves into the one harmonious whole which it now is, and must always have been, either actually or potentially. After referring to Dr. Mivart as "holding with St. Thomas, that reason cannot by itself disprove with certitude the eternity of matter," and to Liberatore, who held the same view, as admitting "that some scholastics and 'almost all modern philosophers' are against" St. Thomas, Dr. Ward adds, "With sincere deference then to those eminent Catholics, who on this matter follow St. Thomas, we cannot do so ourselves. Nay, we regard the thesis, that 'all contingent things have a commencement,' as more obtrusively (if we may so speak) axiomatic than the thesis that 'all contingent things have a cause'" (*Philos. of Theism*, ii., p. 319). The burden of proof lies with him who affirms matter to be eternal. But the contingency and mutability of matter furnish conclusive arguments against its proper eternity.

² *The Principles of Biology*, vol. i., p. 336.

thing and something, it would be absurd ; so it would if the "relation" were one of likeness, or equality. But it is merely a relation of opposition or antithesis, between nothing and something—not strictly a relation between the two, but between *our ideas* of them, a thing possible enough. The objective things related directly to each other in the creative theory, are not nothing and something, but the Creator and the thing created.

Granted, the *modus operandi* of creation is inconceivable ; the *fact* is not. *How* the Almighty created is inconceivable, yet there is no difficulty in conceiving *that* He did create. It is inconceivable how *any* cause acts in producing its immediate effect ; but that it does produce it is as conceivable as it is certain. Why then should the inconceivability of the *nexus* between Creator and creation be deemed an objection to the fact ? Mr. Spencer reminds us that "no one ever saw a special creation." True ; but no one, known to us, ever saw the generation of life from inorganic matter, or a transmutation of species, or the eternal evolution of the world ; or, to come to indisputable ground, no one ever saw the farther side of the moon ; and no one ever deemed that a reason for denying that there was one.

It is too often forgotten that the question of creation or no creation is altogether outside the province of inductive science. While it is the office of the scientist to observe facts, and thence to make such generalizations as they warrant, taking special care to avoid a too narrow induction, he can only apply this process to facts within the range of experience. But assuming a creation of the world, that is clearly beyond all human experience. To it, his apparatus of induction

is quite inapplicable. When, therefore, he says we have no experience of creation of substance, he speaks truly ; but when he thence infers that there never was a creation, he falls into the double error of drawing a baseless conclusion, and attempting to settle the question by a method which has no sort of fitness for the purpose. The physicist, as such, is no more qualified to decide the question of an original creation, than a Christian theologian, as such, to decide whether space has more than three dimensions, or a poet to determine the distance of Sirius. The question of a creation is one for the metaphysician and the theologian much more than for the empirical investigator of nature. Consequently the objection that we have never seen an instance of creation contributes nothing whatever to the intelligent discussion of the subject.

The eternity of matter is more plainly, though not more really, begged in the words of Burmeister, endorsed by Büchner¹: "The earth and the world are eternal, for this quality belongs to the essence of matter." How is the essence of matter known at all, except by its changeful states and properties? Where is the proof, or even its shadow, that eternity belongs to its essence? The assertion is a baseless atheistic assumption.

Besides metaphysical arguments to show the non-eternity of matter, such as the necessary dependence and plurality of matter, physical arguments have been adduced, *e.g.*, that of Sir W. Thompson from Thermodynamics, based on the ground that there must have been a time of absence of heat, and therefore of crea-

¹ *Force and Matter*, p. 62.

tion.¹ However valid may be this argument to some men of science, it is not yet sufficiently established to be of general use in Theology. Nor is Theism dependent on such evidence.

It is not essential to Theism that the non-eternity of matter be demonstrated at the outset. Some of the considerations already adduced go far to show its high probability. But it is enough for Theism that we have proof of an intelligent First Cause, and thence infer the creation of matter: or it would be a logically sound proceeding to prove the existence of God, and afterwards discover the fact of creation from supernatural Revelation.

It has been argued that the world never had a beginning because it will never have an end²; which involves two gross assumptions. *First*, that it will never have an end; for which there is no proof whatever in nature. *Secondly*, that its continuance in the future implies that it never began; which is a flagrant *non-sequitur*. It is easy enough to conceive that a created thing may never cease to be. To say its past existence is eternal *as*, or in the same way as, its future, is strictly, not to assert that it never had a beginning. Its future existence will never have become infinite in duration,—that is, eternal. Eternity will always be to it future and unrealized. The duration of its actual existence will always be limited, though

¹ "Heat is *par excellence* the communist of our universe, and it will no doubt ultimately bring the system to an end." "The present visible universe" "began in time, and will in time come to an end" (*The Unseen Universe*, pp. 91-93). This does not assert that matter was created.

² See Prof. Flint's *Anti-Theism*, p. 154,—alluding to Holbach's *System of Nature*.

always lengthening. Consequently, if the duration of its past existence be like that of its future, it cannot be actually eternal.

(6) *All resolved into change?* Mr. Mill attempts by an entirely different method to avoid the Theistic inference, contending that effects and their causes are all in the *changes* which happen; that in a given case the effect is some change, and its cause is a preceding change, and not in any substance. By this theory substance is left out of consideration, and the succession of causes and effects becomes merely one of change producing change, without beginning and without end. There is nothing but phenomena.

(i.) This and the other theory advocated by Mill cannot both be true, for they stand in opposition to each other. One accounts for the effects by the *substance* of matter as their permanent First Cause; the other ignores the substance, and accounts for the effects by antecedent changes only. Whoever adopts the one as true is logically bound to reject the other as false.

(ii.) The latter is as false as the former.

This latter is obliged to assume an infinite regress of changes, inasmuch as any mere change, or any number of them, can contain no sufficient cause of present effects. And it is equally true that if the series could be extended eternally back, it alone would be as destitute of efficiency as any one in the series. No increase of the number of second causes can increase their total efficiency, or endow them with the virtue of a primary and sufficient cause. The assumption, however, of the adequacy of merely second causes, if admissible, would not avail to rescue the theory from

absurdity; for it would still be confronted by the objections which proved fatal to an infinite series of worlds.

The theory misinterprets the language by which causation is represented. When we speak of one change as the effect of a previous change, the meaning (obvious enough, one would suppose) is, that one change in the state or condition of substances is the effect of preceding change in the state or condition of substances. Substance as the base of all events is always understood. Speaking with rigid accuracy, the cause is not in the preceding change apart from the substance.

Change without substance is impossible. Change is action or movement; but it must be action or movement of some real thing. In all changes something is the changer, and something is changed. The action in the cause, and the change in the effect, must have a substantial subject; *e.g.*, the momentum of a cannon-ball striking an armour plate, fractures it. The contact of the moving ball (the cause) is the antecedent change; the fracture is the sequent change (the effect). But there could be no such contact apart from the ball (substance), nor any fracture apart from the plate (substance). The cause is not merely in the motion and contact, but in the propelled *ball*, in contact with the *plate*—substance acting on substance. Certain conditions of the one substance are the cause; certain conditions of the other substance are the effect. Leave out all idea of substance, such as ball and plate, and the change is inconceivable.

Mill's theory, if true, would resolve all changes into nothing,—an eternal succession of changes without anything changing or changed; incessant actions

without an actor, or things acted upon, action having neither subject nor object.

The theory utterly fails to satisfy the intuitive demand of a cause. We have already seen that all effects must have their origin in power, and substance; this theory attempts to account for them without either.

All Mill's reasoning against Theism from causation is empirical, and therefore, necessarily defective. He argues merely from "*experience*." This method is unreliable when it infers the non-existence of a thing from our inexperience of it; and still more so when the inference contradicts any of our necessary judgments; *e.g.*, if any one attempted to prove from experience that the three angles of a triangle are not equal to two right angles, he would be refuted by the intuitive evidence which renders mathematical demonstration irresistible. So our intuitive principle of causality necessitates our thinking the present world must be the effect of a Being having of itself adequate power to produce it. This negatives all speculations to the contrary. Nor does the whole range of human experience afford any basis from which the contrary can be justly inferred.

Again, Mill argues that "within the sphere of our experience" "the causes as well as the effects had a beginning in time, and were themselves caused."¹ Of course, "within the sphere of our experience"; but our necessary judgments compel us to look beyond that sphere. That "our experience" furnishes no First Cause is the very reason why we have to seek one outside our experience, one without "a beginning in

¹ *Essays on Religion*, pp. 144, 145.

time." The argument of Mill and "Physicus" is the well-known fallacy of inferring the universal from the particular, namely, that as all causes of which we have experience (second causes) are in time, and were preceded by other causes, the same must be true of *all* causes whatsoever. This conclusion, besides being a *non-sequitur*, is the opposite of what reason demands, namely, that as all causes known in our experience are insufficient to account for all existing phenomena, there must be a cause more efficient than they. Force, says Mill, cannot be traced "by our experience to anything beyond itself." True, it cannot "by our experience"; but it can, and must, by our *reason*, and laws of thought.

Whatever evils may accrue from Mill's assaults on the Theistic argument from causation, we gain at least the advantage of perceiving how little one of the acutest champions of unbelief can adduce against it. He had the ability and the will to put the case against Theism in its full strength. The feebleness and failure of the attempt furnish undesigned testimony to the impregnability of the Theistic position.

(7) *Force*? Matter being found inadequate, it is asserted that all may be accounted for by the force contained in nature. Mill, followed by "Physicus," and reasoning again from experience alone, affects to find the First Cause in the fixed quantity of force, "combined with certain collocations."¹

If force be taken, as with Faraday, to mean the power of God in nature, Theism is thereby implied. If it mean a property essential to the conception of matter,

¹ *Essays on Religion*, pp. 144, 145.

like extension, it is not true; for we have no difficulty in conceiving of matter without force. If it mean a quality or attribute with which matter is endowed, or which it has acquired, as the endowment or acquisition was an event, it must have had a cause. To say force is the cause of all mutations only carries the demand for a cause a stage further back, to ask, what and whence the force?

As it is never found but in connection with matter, there is reason for thinking it belongs to matter. Then how came the forces of countless millions of atoms to agree so exactly with each other in the constitution and order of the universe? To believe so many centres of force are mutually adapted, and co-work with the precision and unison which are everywhere characteristic of nature, without any cause besides themselves, requires an amount of credulity far surpassing any required by the most implicit faith in God.

If, on the other hand, force is distinct from and adventitious to matter, it must have a substratum in something else than matter. Not being itself an entity, it must be the property of some entity. Energy cannot but be the energy of something. But if it does not inhere in matter it must inhere in something else; which implies a cause of the world other than matter and force. Moreover, if force be something distinct from matter and its properties, it is clear that matter can and does exist independently of force; in which case force is not the cause of all things, nor of all changes; for the latter are due, in part at least, to matter and its properties. In that case too it would be possible for force to exist without matter, seeing it would not depend upon matter.

So far from force being the ultimate immutable base of all things, with those who identify it with motion, its radical notion implies change ; while with others it is the cause of motion. But the sensationalist school should remember that we have no acquaintance with force, except as seen in motion. The same energy may by turns appear in the form of heat, light, weight, electricity, nerve, and muscle. It is now united, then disparted ; now active, then apparently quiescent. If force be the cause of all, its changefulness shows there is nothing immutable and necessary ; but everything is contingent. But as something exists, we know that something must be eternal and necessary, which proves the theory unsound.

Assuming that force could account for all physical phenomena, what congruity has it to produce the facts of life, consciousness, volition, sorrow, joy, and hope ? The mind is quite baffled in its attempts to conceive of these states as mere modes of force.

(8) *Matter and Force?* Another of Mill's alternatives, which must be false if either of the others be true, is that the basis and cause of all phenomena is in matter and force taken together as non-causes. Then what becomes of the simple unity of the cause, which Materialism allows to be required by the law of parsimony ? If to make matter alone the ultimate cause of all is to assign a cause consisting of as many distinct causes as there are atoms and properties of atoms, and to resolve all causation into force is to assign a changeful, divisible, multiform cause of all, then to join these together as the primary cause is to multiply the diversity, complexity, mutability, and contingency of that cause, and thus to saddle the

attempted solution with a double weight of fatal objections.

(9) *Theistic solution.* The only satisfactory solution of the present universe as an effect is that which ascribes it to an antecedent *First Cause*. This agrees with all the essential requirements of causality. It avoids the absurdities of self-origination, as well as those of an infinite series, by tracing all to a Being possessing sufficient power of itself to produce the effect. Instead of attributing the world to inadequate second or instrumental causes, it finds one every way sufficient.

The principle of causality is never satisfied until, passing beyond all intermediate links, it attains to the original cause—an uncaused cause of all besides itself.

Our conclusion also harmonizes with every known fact of nature. All the wonders of the heavens above and the earth beneath, the immeasurably great and the immeasurably minute, the intricate operations, the all-pervasive laws, and the complete unity of universal nature, otherwise defying all attempts to explain their origin, are sufficiently and plainly accounted for as soon as we trace them to a great First Cause. The argument may be founded on any point in nature. But when we recollect that the number of such points far exceeds all computation, or imagination, and that nowhere in all the millions of events can exception to evidence of causation be found, the aggregate strength of the etiological argument appears overwhelming.

Proposition 2. The First Cause is ETERNAL.

Some being is ; therefore some being always was. For otherwise some being must have originated itself,

which is impossible. *Ex nihilo nihil fit*. Had there ever been a moment when nothing whatever existed, there must have been thenceforward for ever nothing existent, seeing not anything could start its own existence, or be the cause of itself. To be the cause of its own being would be to *act* as cause before it existed; and as it must exist in order to act, it would imply that it existed before it existed, which is a contradiction.

Thinking upwards from present effects to their past causes, the causal principle, as we have seen, cannot rest satisfied short of a *First Cause*. If there was none before it, and if something always existed, it follows clearly and inevitably that the First Cause never began to be, but is eternal.

Proposition 3. The First Cause is SELF-EXISTENT and NECESSARY.

The First Cause could not be self-originated or self-caused. For as already shown, that would be absurd and self-contradictory. Nor could it be caused by any other being. For no other existed before it, nor as early. It was therefore uncaused, and independent of all others for existence. But an eternal uncaused being independent of all others, must be self-existent, that is, must have existence only in and of itself.

Such a being could not but exist; in other words, its existence is necessary. It could not cause the cessation of its own being any more than it could originate itself, for that would imply that it acted after it ceased to exist, because its act of annihilation could not terminate until extinction was complete; which means that it was impossible for it to exist and not exist at the same time. Neither could it be annihilated by any

created being, for all created beings not only depend on it for existence and power to act, but are inferior to it, and being the less they cannot annihilate the greater. Consequently, it exists necessarily.

Thus it is proved that there is a necessary self-existent being, the First Cause of all things.

Proposition 4. The First Cause is INTELLIGENT.

“Who teacheth us more than the beasts of the field, and maketh us wiser than the fowls of heaven?”

I. *Mind can be caused by mind only.* Contingent mind exists, and nothing less than mind can have produced it. Mind such as we possess is an effect, and not the First Cause. The mind of a man, being a simple and not compound thing, cannot be a scintillation, fragment, or part, derived from the mind of his parent. It is a distinct entity of itself. As an *ego*, I am conscious of being the whole of a mind. My consciousness of individuality separates me from all others, as my consciousness of identity assures me I am the same *ego* as I was in past moments or years. My mind, and the myriads like mine, had a beginning, and could not be the First Cause. Consequently, as an eternal regress of minds is just as untenable as an eternal regress of material things, our minds must have been produced, directly or indirectly, by the First Cause.

But the First Cause of finite minds must itself be mind. If not, our minds must either be modes of matter, or else they have a proper entity essentially different from matter, yet created by it.

As to the first of these two suppositions, if mind be but a mode, state, or property of matter, it cannot be

a *necessary* property, for then it would be co-extensive with all matter, which, in point of fact, we know it is not. If it be an *accidental* or non-essential property (which is the more general notion of Materialism), it must be some mode of one or more necessary properties.¹ But between the necessary properties, say extension, impenetrability, and divisibility, with the addition, for argument's sake, of gravitation, mobility,

¹ The doctrine that all non-essential properties of a substance are modes of its essential properties, as propounded by Locke, has been extensively accepted. It has, however, its opponents. The Rev. W. Lyall (*The Intellect, the Emotions, and the Moral Nature*, p. 50) thus refers to it: "His" (Locke's) "supposition that the secondary may be but modifications of the primary qualities, is a mere gratuitous assumption." The view thus challenged is not only confirmed by the discoveries of material science, but is favoured by metaphysics. Lyall supposes that motion is not a property of matter, but superadded, which agrees with his view of secondary qualities. But the law of parsimony requires that motion, if possible, shall be attributed to matter. At any rate, on the hypothesis that all the forces and laws of matter arise from its essential properties, it follows that there is nothing to produce secondary qualities but the primary. They cannot be produced by nothing. And if the primary are the cause of the secondary, the latter, as the effect, must have been potentially in the former, and must bear some correspondence to them.

Colour might seem to have no kinship with extension or resistance, but science inclines to conclude that each colour is the effect, on nerves and mind, of some peculiar internal motion of the object, *e.g.*, red of one form of motion, yellow of another. And motion is plainly related to the essential property of resistance. Scientists are also tending to regard all chemical change as but finer invisible forms of motion.

If, however, secondary qualities be regarded as adventitious, those which are appropriate to matter, as colour, motion, and chemical affinity, bear no correspondence, separately or combined, to thought; and no more account for mind than do the primary qualities.

and physical force, there is no conceivable identity or cognation—no sameness of nature, no fitness in the one kind to generate the other, any more than there is in thought to take the mode of superficial or cubic dimensions, or of sentiment to be balanced in the one scale by lead in the opposite.¹

Mind and matter have not a single property in common. It is impossible to think of any property of matter (*e.g.*, extension) as inherent in mind. The two are so essentially dissimilar in every particular, that neither can be conceived as a contingent or accidental state of the other.²

To this view "Physicus" replies, "To the country boor it appears self-evident that wood is annihilated by combustion; and even to the minds of the greatest philosophers of antiquity it seemed impossible to doubt that the sun moved over a stationary earth."³ The irrelevancy of these illustrations scarcely needs indicating. "The country boor" and the "philosophers" simply wanted the true idea to be *presented* to them, and the impossibility of *conceiving* it vanished, whether they adopted it as true or not. But however carefully the attempt be made to present the idea of matter performing an act of thought, or creating a thinking being, the impossibility of conceiving it remains. In

¹ "There is a numerous group, not in the slightest degree entitled to rank as Physicists (though in general they assume the proud title of Philosophers), who assert that not merely Life, but even Volition and Consciousness, are merely physical manifestations" (Tait, *Recent Advances*, pp. 25-70).

² For the same reason "monism," which resolves matter and spirit into one essence, cannot be true. Properties so essentially opposite in their conception cannot inhere in the same essence.

³ Pp. 14, 15.

the former case the difficulty is simply one of ignorance ; in the latter, it is utter incompetency to identify mind with matter.

Our imbecility is not lessened by the suggestion of the most complex "collocations" of matter, as in the human nerves and brain. For change of place, shape, size, or mutual relation of the parts of matter, brings us no nearer to conceiving of thought as a property of matter. The insuperable bar is not in the bulk, or simplicity of matter ; but in its alien nature. Consequently the endeavour to identify it with thought is in no measure helped by supposing it changed from a simple into a complex state, or "collocated" in any special combinations. Between brain, because it is matter, and mind, there is a gulf which material philosophy has never been able to bridge, as Professor Tyndall distinctly acknowledged in his well-known Birmingham address.

Again "Physicus" endorses the words of Mr. H. Spencer, that mind is "secured by the one simple principle that experience of the outer relations *produces* inner cohesions, and makes the inner cohesions strong in proportion as the outer relations are persistent." A fallacy lurks in this jumbling together of physical and mental qualities, as if *physical* "cohesions" produced within, by outer or inner relations, were *mental*. The absurdity, put plainly, is that outward material things cause mental or spiritual qualities within us ; which, moreover, is simply a begging of the whole question.

Scientific explanation, in its broader sense, finds a sufficient *cause* for the effect. In its narrower sense, it affects to find it in *classification*, that is, it assigns a thing to its own class, with whose contents it is identical. "Every act of explanation," says Professor

Jevons, "consists in pointing out a resemblance between facts."¹ But the Materialistic explanation of mind does neither of the two. In the narrower sense thought and will can only be explained by showing that they belong to a certain class, because they resemble the other members of that class. But to place them among the properties of matter is to class them with things to which they bear no resemblance whatever—things which cannot be assigned to the same class, species, genus, or nature. With no facts of matter can thought and will be classified, therefore no explanation of mind is scientific which resolves it into the act or state of matter.

Consequently, if mind is not a mode of matter, the only remaining alternative to my thesis is, that mind is a distinct *entity created by matter*.

But this is altogether inadmissible, because matter is utterly *inadequate* to such effect. Matter cannot create its *own* kind ; how much less a kind of substance essentially different and far superior ! If matter cannot develop mind out of itself as a mode of its own existence, how can it perform the immensely greater feat of creating mind from nothing ? Matter is *inert*, and only acts as it is acted upon ; and if there were not something else to set it in motion, it would remain motionless. To speak precisely, action, or agency, is not predicable of matter ; but motion only, as that may be set a-going by something other than matter. Should it be contended that motion is not a property of matter, but distinct and independent, and that thought is a mode of motion, the same fatal objection again arises. Thought bears no

¹ *Principles of Science*, p. 533.

more correspondence to the motion we see in matter, than it does to extension or impenetrability. The idea of motion—that is, change from one place to another—is foreign to that of thinking. The two ideas are incapable of identification. Hence the one cannot give birth to the other. It were much easier to conceive of space as a mode of duration, or blackness as a mode of whiteness, than of thought and volition as modes of motion. Let motion be complicated or changed to any extent, it comes no nearer to identification with thinking, because the dissimilarity is one of nature.

Should the Materialist choose the alternative that thought is a quality or thing essentially different from matter, though superadded to it, his position would be undone ; for then matter would not be everything. He has to account for a quality which is not matter, but vastly superior to it. Whence this non-material quality ? who, or what endowed matter with it ? He has to answer these questions on the assumption that nothing but matter exists.

Inasmuch as every cause must be proportionate to its effect, the less cannot produce the greater—the inferior the superior. “He that planted the ear, shall He not hear ? He that formed the eye, shall He not see ?” This position is disputed by Mr. J. S. Mill, who contends that it is “at variance with the known analogies of Nature. How vastly nobler and more precious, for instance, are the higher vegetables and animals than the soil and manure out of which, and by the properties of which, they are raised up ! The tendency of all recent speculation is towards the opinion that the development of inferior orders of existence into superior, the substitution of greater

elaboration and higher organization for lower, is the general rule of Nature. Whether it is so or not, there are at least in Nature a multitude of facts bearing that character, and this is sufficient for the argument."¹ So far from "sufficient," the argument is quite inconclusive.

In the first place, supposing the "facts," so far as experience goes, to disclose in nature no cause as great as the effect, the rational course would then be, not to conclude there is none, but to inquire whether there be any such cause either in or *out* of nature, ascertainable by other evidence than the "facts"—a question leading directly to the idea of an Intelligent First Cause of all nature.

We ought not to consent to ignore the demands of the laws of thought, including the necessary intuition of causality, in order to stake the conclusion on the observed "facts" alone. Assuming the "facts" to be as Mr. Mill takes them, the case stands thus: On the one hand our necessary judgment certifies that every event must have a sufficient cause. But no cause can be sufficient which is inferior to the effect. On the other hand, there are cases where the whole of the natural cause *is* inferior. The inference then should be, that there must be some *supernatural* cause, since nothing less can satisfy the mind's constitutive demand of a sufficient cause. Instead of inferring that the less can of itself produce the greater, it should have been inferred that there must be a higher cause anterior to the less.

Materialism lands us in a dilemma in which our

¹ *Essays on Religion*, pp. 152, 153.

experience of a thing causing something greater than itself is contradicted by our intuitive requirement of an adequate cause. Theism saves us from the dilemma by finding the adequate cause in God.

In the second place, this empirical proof of an effect greater than its cause is by no means made out. Certainly not by what Mr. Mill adduces as to "the development of inferior orders of existence into superior." He sufficiently deprives it of an evidential character when he calls it an "opinion," or "speculation" "towards" an "opinion," or rather, the "tendency" of speculation towards an opinion. This falls far short of the evidence of "experience."

As to the "multitude of facts," a single specimen will serve to test the soundness of "the argument." Among "the higher vegetables" is the vine with its "precious" clusters. This is the effect of a cause less than itself, namely, "soil and manure." But are the soil and manure with the seed or plant the *whole* of the cause? The vine may be also in part due to the atmosphere, the temperature, the sun, moisture, deposit of ammonia, and many anterior causes of these causes, not to mention the refuse of animal life, and the cultivation bestowed by man. Is the vine greater than all the causes combined, to which it owes its existence? In attempting this argument, Mill must have forgotten his own maxim, "The statement of the cause is incomplete unless in some shape or other we introduce all the conditions."

Again, the ultimate molecules of the vine may be decomposed and dissipated in nature, and after many changes *may* come round to form another vine, in which case the first vine is a cause of the second, and

the intervening changes are only part of the cause of the second vine.

Clearly the facts of nature afford no proof of an effect greater than its entire cause ; and if they did, we should be obliged to seek an adequate cause above nature.

It might be asked, if matter cannot create mind, how is it possible for mind to create matter ? We know not *how* ; yet we easily conceive *that* it can. For true action and power belong to mind, and not to matter. Mind in ourselves can originate motion or the operation of causal force, and can do this in inert matter. The impotence of matter to create mind is not merely difference of *kind*, or nature ; but impotence to do *anything* of itself ; and especially to create a being far greater than itself. If creative power exist at all, it must be in mind ; it cannot be in passive matter.

The effect is previously in the cause ; not so fully and literally as the words of Sir W. Hamilton seem to imply, but at least potentially. A savage tribe, for instance, may become civilized, and thus become a greater people. But the natural capabilities in the savage, and the influences of knowledge, example, and all that contributed to the result, are in their totality as great as the civilization they produce, and potentially contained it.

On the principle of *ex nihilo nihil fit*, a part of a thing cannot come from something, and the rest from nothing. If the less produces the greater, part of the effect comes from its cause, and the other part (all in excess of the cause) comes from nothing,—which is impossible.

The *association* of some mind with every particle of matter (Hylozoism), which has been assumed in order

to account for the intelligent ways of matter, if true, would not be matter *causing* mind ; nor would it prove mind material. The natures of the two would still be as different as ever. This is pointed out by "Physicus," in reply to Professor Clifford.

2. Intelligent cause proved by the co-ordination of nature.

The constitution and operations of nature on every side display an exercise of power, the vastness of which may well impress us with admiring awe. Nature is pervaded by what we call its forces, to account for which we have had to refer to a First Cause.

The characteristic now to be considered is that all this active power is directed according to a plan or scheme, so accurate, well-balanced, and universal, as to necessitate intelligence in its author. All the parts are reciprocally adjusted, and the forces harmoniously combine ; *e.g.*, the carbon of coal with the oxygen of the atmosphere in flame ; or the various directions of gravitation in ruling the seats and courses of the celestial orbs. One chemical element has an affinity for another ; the quantities and qualities of bodies are all correlated. On the observed uniformity of these correlations, science founds its conclusions, and formulates the laws of nature.

"The reign of law" is everywhere continuous and complete. Crystallization, death, reproduction of living organisms, electric lightning, germination, the functions of the human body, and the operations of mental faculties, are always and everywhere subject to rule. Co-ordination prevails from the smallest particles up to the massive globes sweeping through the wide reaches of space. The position and features of Sirius,

the revolution of our moon, the solar system, the transmutations of a drop of water, the formation of the earth's crust and its covering of vegetation, the action of the human heart, and interactions of body and mind, the explosion of dynamite, the action of fire and water, the invisible motion of atoms, all conform to the same plan, and are governed by the same system of laws.

The principle of causality asks, how can this universal order, this co-adaptation of the innumerable parts, be accounted for? To ascribe it to chance is no answer; that merely alters the shape of the question into, what chanced to cause the order to be as it is? Or if chance mean that the actual effect had no more antecedent probability than any other into which undirected events might fortuitously fall, then the chances against their falling into the present order were virtually infinite. For the possible alternatives to the present order would be as many as the possible combinations of the ultimate elements of existence. If the few letters of an alphabet can be placed in a great many different relations to each other, how vastly more the innumerable constituents of the world. Were it possible to symbolize by figures, say nothing of conceiving, all the modes besides the actual, in which the atoms and forces of the universe might have been related to each other, the antecedent chances against the present actual order would be the number of those modes. The odds against the present order, and in favour of some state of complete or partial disorder, defies our attempt to believe the order emerged by mere accident.

Or if chance mean that the effect was unforeseen by its cause, as an accident is unforeseen by us,

the ascription of the effect to chance is a *petitio principii*. For the foresight of the First Cause is part of the question in dispute. Besides, to say an event takes place unexpectedly is no answer to the demand for its First Cause. Chance, in that sense, assigns no cause. The unexpectedness is no part of the cause.

To assign *necessity* as the cause, so far as the terms are intelligible, merely shifts back the question, leaving us to ask *why* necessary? and how came blind necessity to introduce such wonderfully wise arrangements throughout the immense range of being? why was order necessary rather than disorder? Not because disorder is unthinkable; for we can easily conceive of the forces of nature acting in dire confusion. Apart from mind, we can conceive of nothing to necessitate order, and especially this order in particular.

To attribute it to mere *force* is no solution. For that too is blind. The actual co-ordination requires prescience, and omniscience to account for it. It is power acting according to rule. The *methods* as well as the strength of force have to be accounted for. Force alone may account for motion of some sort; mind alone can account for *such* motion as we see everywhere and always precisely adjusted on intelligent principles. Take, for example, crystallization, with its exact geometrical calculations. A five-sided crystal is built up of minute five-sided figures, and a ten-sided one of ten-sided figures. However frequently a crystal be dissolved and re-formed, it always resumes the same shape in its units and its whole. The lines and angles of the small bodies always fit each other more accurately than the bricks of a wall; the same lines and angles are repeated. But excluding calcula-

tion from the Author of nature, all this is utterly unaccountable. But calculation is the opposite of blindness, whether of chance, necessity, or force, and is a distinctive quality of mind.

Hence the all-pervasive force of Pantheism is as incompetent as that of Materialism to account for the intelligent arrangements and control of the world.

The order of nature is the reflection of a mind sufficient to produce it, as the forces of nature are the reflection of a sufficient power. Nothing less than intelligence can account for a universe every point of which bears the impress of intelligent control, and harmonious correlation.

The constant recurrence of similar events under similar conditions requires intelligence for its cause. "A given cause always produces the same effect" is a maxim so broadly based on experience that it is accepted on all hands as a law of nature. But could anything less than intelligence have imposed such a law on unconscious matter?

Unreasonable attempts have been made to bar all inference of intelligence in the First Cause, on the ground that to draw such inference is to pass beyond the bounds of natural science.¹ Inquiry will not be thus suppressed. If natural science does not conduct our thoughts from nature to its God, reason does. Define science, if you will, in such terms as limit it to nature. The contracted meaning of the word cannot contract the range of our mental faculties to the same limit. Reason has a much wider realm than nature;

¹ Lewes's attempt to dismiss all idea of a plan is well met by the Duke of Argyll, *Reign of Law*, p. 88. See also Janet's *Final Causes*, p. 116.

and will not hesitate to rise, by legitimate inference, from the abounding manifestations of intelligent order, to an intelligent First Cause.¹

By the same process of inference we gain our knowledge of physical science. Forbid rational inference, and science and philosophy are at an end. Why then is this noble faculty to be debarred from increasing our knowledge on the more important subject of the supernatural? The attempt is in vain. Our intellectual constitution compels us to make the inference of intelligence in the cause, from signs of intelligent work in the effect; just because it compels us to think every effect must have an *adequate* cause.

In the broader and worthier sense of "science," all legitimate pursuit of truth and extension of human knowledge is scientific. Its field is the whole range of truth, whether physical or spiritual, human or divine. Whether the knowledge of God shall be *called* scientific, or one particular section of truth seekers shall monopolize the use of the word, is a secondary question. The right and duty of our reason to connect nature with its Author must be maintained.

3. *Intelligent Cause proved by Final Causes.*

(i.) *Explanations of the argument.*

Probably the most influential proof of intelligence in

¹ Dr. Calderwood's caveat is as just as it is pertinent. "If however, any one be inclined to maintain that 'where the material substratum is deficient,' all inquiry must terminate, and human thought must refuse to go further, or to attempt to rise higher, this certainly is not science, but an illogical attempt to make the science of nature commensurate with the boundaries of thought,—an arbitrary declaration that 'the causal series' within the material universe is the sum total of causality" (*Science and Religion*, p. 145).

the Author of nature is that of *Final Causes*, the dissent of some great thinkers notwithstanding. Its cogency was felt by Cicero and Aristotle ; it swayed the convictions of Rousseau, and many another unbeliever ; Mr. J. S. Mill on a general survey, despite his scepticism, confessed there was a large balance of probability in favour of the argument. Being easily understood, and its materials being always at hand, it appeals with great success to the minds of men in general. In modern times such works as those of Paley, Janet, and the Bridgewater Treatises have done much to render the argument familiar to the age ; while, on the other hand, Atheistic writers have felt it needful to direct their greatest efforts against it.

The same world furnishes the facts on which we base the proofs of efficient and of final causes ; but the two lines of argument are distinct. For example, from the laws and forces of crystallization we infer a cause capable of mathematical contrivance ; but in the perfect crystal resulting from the force and contrivance, we see an *end*, which must have been intended, and for the accomplishment of which they were means. In the one case we infer a proportionate, that is, an intelligent cause ; in the other, we infer *design* in the cause, which of course yields the same conclusion of intelligence.

By final causes are signified *ends* previously intended, and for which means are employed. Intention or design differentiates them from mere *results*, and implies that they were thought of by their cause before they were accomplished. The gist of the argument is not to prove that design implies a designer, or intelligent work an intelligent worker, for that is beyond dispute ;

but that *design is evident* in many natural arrangements and operations, from which, by generalization, we know it is the same throughout the whole. That proved, the rest unavoidably follows.

A final cause is not so named to denote that it is the very *last* effect, actual or possible; but to indicate that it is a definite *end*, to which means are adapted, though it may itself become the cause and means of some further end, and so on perpetually. Whether any such ends exist or not, it is clear from our definition of the terms that if there be such, there must be intelligence in their First Cause.

In any such case, the end to be sought is a *reason* for the employment of means to bring it about. *Because* the Author designs the end, He adopts means to produce it. The end is thus the cause, in the Author's mind, of using the means; and in that sense the end precedes the means,—the final cause thus precedes the efficient. The effect exists in conception or idea before it exists in fact. In the order of thought, the end is before the action which produces its realization, and is the cause of that action.

This order, so far from being an objection, as some have alleged, to the doctrine of final causes, is perfectly rational. For example, I conceive the idea of speaking a foreign language, and make that an end to be attained. Then I adopt means, such as studying the grammar and lexicon, and placing myself under a teacher. That I should think of the end before I use the means is the natural course of events; but in that course my conception of the end is the cause of my action in effecting it.

The final cause is quite consistent with, yet distinct

from, the efficient. The efficient cause produces the effect; the final cause is the effect viewed as an end to be produced by means of the efficient. In the sense just indicated, the purpose of the end causes the use of the means; but the special feature to be noted in the final cause is that the effect is conceived beforehand. There is nothing in the process to preclude foresight and intention of the effect on the part of its cause.

The doctrine of final causes does not mean that *every* event in nature has necessarily a preconceived end to accomplish, though Aristotle said, "Nature never works in vain." It may be so, or not.

Still less does it mean that *we* can trace an end for every event. It does not bind us to show the use of desert wastes, earthquakes, pestilence, or ravenous beasts, the dangerous gases in coal mines, or the contrary directions of revolution in some heavenly bodies; though in all such cases it might not be difficult to prove, or suggest utility. Nor does it matter that some few things in nature, such as monsters, seem at present to be inimical to useful ends. Their uses may yet be discovered as knowledge advances, or it may yet appear how they are incident to more general laws, fraught with good on a wider scale. Enough for the principle in question, if *any one case* of a final cause can be shown; and for the theological use of the doctrine, if it be seen that final causes abound in nature.

Nor need we imitate those who, as Bacon complained, neglected the investigation of efficient to dwell on final causes, nor those who have exaggerated the application of the doctrine, until they have suggested ends for the works of nature which were far-fetched, frivolous, or

ridiculous. The materials are so copious, that we never need draw upon imagination for illustrations of the doctrine.

From the time of Kant a distinction has been made between *external* and *internal* ends. External finality is the utility of a thing for another thing, as vegetation for the support of animals. Internal is the reciprocal utility of the various parts of the same thing to each other, and of all for the whole being. The whole thing is then both end and means, *e.g.*, the various organs of the same animal.

The doctrine of finality in causation is not a primary truth like the axiom "every event must have a cause." It is rather a generalization from facts of nature. It is conceivable that a useful result may be accomplished by blind undirected force. However improbable, there is nothing self-contradictory in the proposition. From our experience of nature, we assert that there are ends therein. And since every event must have a proportionate cause, we infer that these ends were conceived beforehand.

The argument from final causes is commonly called the *physico-theological*, because it conducts our thoughts from nature up to God. But its base is broader than physical, if that mean material nature. Sometimes nature denotes the physical universe, but with the Anti-Theist it must include all that is known or exists. And he is bound to account for mind as a part of nature. In this discussion nature must comprehend all the facts of intelligence, morals, society, and religious instinct, all which vast domain, so far as it may be known, is available for the proof of design. The argument, as Bacon observed, is metaphysical

rather than physical; which may be a good reason for not including it in physical science, but not for its exclusion from the realm of thought and knowledge.

The issue has been misapprehended, as if it were between Design and "Natural Selection"; whereas both may be true. A corrector of this mistake¹ falls into the error of affirming the issue to be, "Design *versus* Natural Law." Law is not the antithesis of Design, but its instrument, and method of attaining its end. To demonstrate that results are accomplished by law in no way precludes their having been prevised and preordained. Law, in fact, is itself evidence of controlling intelligence, as we have seen in the co-ordination of all nature. To affirm that the human eye was produced by "natural law" is perfectly consistent with the idea that its faculty of vision was an end in the mind of the Law-giver. It may be readily admitted that *every* physical change within present experience "occurs in accordance with law," without our surrendering the axiom that "contrivance must have had a contriver."² It is astonishing that some Atheistic evolutionists should fancy that to explain facts by reference to law is to exclude design, as if to find out the means or the manner were the exclusion of the end.

We are told "self-generation of natural law is a necessary corollary from the persistence of matter and force."³ Then is the law self-caused? Elsewhere the same writer tells us it is caused by force and the properties of matter, which is probably what is meant by the words just quoted. But scrutinized, this means

¹ *Physicus*, p. 43.

² *Ibid.*, pp. 38, 39, 40.

³ *Ibid.*, 57.

that as mere force is not directive or regulative, but the thing to be regulated, the properties of matter are such as to determine the course of all material force and change. That is to say, the laws by which all cosmic harmony is determined are previously contained in the properties of matter. But whether inherent or superadded, the laws could not cause themselves, but must have had a cause, and such as would be adequate to secure the system which moulds all the states of matter into mutual agreement, and links all events in a regular succession. The question is not whether this vast continuous order of things is due to law; but whether the order is not an end, or multiplicity of ends, designed by the Author of law. It avails little on this question for Mr. H. Spencer to observe that there is a "Universal tendency of force to become rhythmical." How long would this tendency have to operate before it changed matter into mind? And what is the cause of this tendency?

It is no part of the argument from design that the great Designer of nature must reach His predetermination of ends by the same kind of mental process as that by which we reach ours. We may attain to a purpose by observing facts, and reasoning on them to a conclusion. The Omniscient can have no need, nor possibility of depending on such processes. The essential element is that the Divine Artificer *foresees* and *foreordains* results to be accomplished in the course of nature—sets the end before Him and employs means to bring it to pass.

(ii.) *Proofs.*

The world abounds in marks of final causes. Their number defies all computation. The return of the

seasons, the tide's ebb and flow, development of vegetable and animal life, reproduction of living organisms, the respective contrivances for flight, swimming, running, and self-preservation in various species, the functions of the human body, the uses of instinct, the correlation of all the parts of a plant, a man, a species, a globe, a stellar system, or the universe, for the completeness of its whole, are some of the countless facts in nature for the accomplishment of which, as ends, other facts are evidently intended as means.

That finality is their true character is the more certain inasmuch as in almost every case the result is produced, not by a single antecedent fact, but by a convergence and co-arrangement of many antecedents, diverse, yet uniting to produce some one effect different from them all. Like the tiny streams arising far away and uniting at various points until they all meet to form the great estuary, the causes of an event, such as the existence of a particular man, may be traceable backward into almost every department of nature. In the proximate cause may be generation, parturition, air, food, moisture, heat, light, society, education, liberty, chemical and mechanical processes, all combined in the one result—a man of ordinary character. That all these several causes thus fell together, and produced the man, and that millions are so produced without intention or foresight in the Author of nature, far exceeds the power of belief.

Out of multitudes take a single case—man's audible speech. Not to mention the intelligence and will involved in its use, that the physical faculty of speech is an end or intended result, is apparent, not merely from its great advantage to mankind, but from arrangements

of nature for its accomplishment—arrangements manifold, minute, co-adjusted with the utmost nicety, and precisely adapted to result in the speaking of one into the ear of another.

The sound is caused by a blast of air from the lungs striking against the vocal cords or elastic membranes of the glottis, which in their turn impart their vibrations to the air above. The greater or smaller volume of sound is caused by a greater or smaller propulsion of air from the lungs. But, for speech the sound must become by turns more or less sharp, varying between high and low notes. This is effected by the varying tension, and by the varying openness of the vocal cords; and these variations again by the surrounding muscles and cartilages, and the motor nerves connected therewith. Further, the strength and agreeableness of the voice is increased by the higher portion of the throat, and the cavity of the mouth, serving somewhat as the interior of a trumpet augments and modifies the sound that would otherwise be emitted from the trumpeter's lips, thus supplementing the work of the larynx. Again, the modifications of the issuing sound into the signs represented by vowels and consonants, are caused by the positions and movements of tongue, teeth, lips, and palate.

Still all this machinery fails to communicate the speech unless there be a conducting medium. That is found, however, in the air which intervenes between the speaker and the hearer.

But even yet, the waves of exquisitely modified sound would not suffice without the receptive organ in the auditor. This is supplied by his delicate auricular apparatus. Each ear has its shell and canals,

which collect and convey the sound to the drum, which, "unlike other stretched membranes, has no marked note of its own." "Had it a fundamental tone of its own, we should be distracted by the prominence of this note in most of the sounds we hear."¹ Thence the message is carried by the auditory ossicles or levers of little bones, along the inner end of the labyrinth towards the brain, from which in some mysterious way it reaches the mind. Damage to the tympanum or drum is prevented by a tube (eustachian tube), which equalizes the pressure of the air on both sides.

What a marvellous co-ordination of diverse causes in the production of vocal communication from one man to another! Is it to be supposed that the co-ordination of the breath, larynx, throat, teeth, palate, lips, and lungs, of the air with its adaptation to be the medium, not merely of intelligible sounds, but of many significant variations, and of the mechanism of the ear, corresponding to the air and the voice, with all the nerves, muscles, membranes, and parts contributing to the result, was undesigned and happens fortuitously or without forethought? Reason recoils from the supposition as contrary to all probability—especially when it is seen how the same result, and no other, ensues from similar co-ordination, and from no other, in countless millions of cases.

Taking hearing and speaking together, how powerfully are we constrained to conclude that the speech spoken and heard is an *end* previously designed, of which all these correlated causes are the means. The

¹ Dr. A. M. Foster, *Text Book of Physiology*, p. 515, which see for other provisions in the process.

cogency of the argument is increased if we trace the contrivance further as a complex and delicate means for conveying not only sounds, but intelligence from one mind to another.

Equally convincing marks of contrivance for useful ends appear in connection with respiration, nutrition, circulation of the blood, osseous mechanism, sensation, muscular and nervous systems, generation, growth, and various organs and functions of the human frame. "The more we learn," says Dr. A. M. Foster, "of the working of the body, the more aware we become of the fact that it is crowded with regulative and compensative arrangements, no less striking and exquisite than the two we have just described."¹

It is strange that, in face of such facts, it should have been said, we know nothing at all about final causes. The character of finality is manifest on every hand. Even where external ends such as that just given are not visible, the internal are often plentiful. For example, the completeness of the whole man is the end of all the correlated parts, organs, and properties of which he is made up. The relation of the latter to the former is inexplicable, except as the means intended to accomplish it.

Strong confirmation is afforded by *analogy*. We know from experience as individuals that ends are conceived and then means adopted, that is, causes brought into operation to effect them. A man, for instance, mounts a horse and travels to a distant town because he has conceived the intention of reaching the place sooner than he could by walking. The possession

¹ *Text Book*, etc., p. 208.

of money, again, he conceives as an end to be attained ; therefore he trades, toils, or gambles, in order to attain it. He collects materials, and with his own hands, or by the employment of others, builds a house, or a ship, because he has previously designed to produce it. Seeing his fellow-men doing similar things with similar results, he infers that they also accomplish them because they first designed them ; and thus he becomes as certain that his fellow-men act in order to attain ends previously intended by them as that he himself does so, and that they, like himself, have intelligence.

The analogy is easily extended to the ends sought by brutes. The beaver's hut, the bee's honeycomb, the bird's nest, the internal adaptation of organs to functions in all animals, their tendency to, and aptness for self-preservation, their production and protection of their young, and innumerable effects of what we call instinct, are plainly ends which must have been previously conceived ; for the same principle of correlated adaptations of means to ends, of which we are conscious in ourselves, is apparent in them ; and nothing else than intelligence will account for them. The inference is that, as in ourselves, so in the sphere of instinct, many effects are also ends designed by intelligence beforehand.

Men and animals are related parts of the same system of nature. It would be preposterous to think the beautiful co-operation of heterogeneous facts in the production of needful effects was in man's case carried on by intelligence, but similar ways in the rest of the animal kingdom were produced without intelligence, either in the individuals or their Maker. The hypothesis is a pitiful alternative to the inference of a Supreme Mind.

It matters not to this argument whether inferior animals have intelligence in themselves, or are unthinking *automata*. Enough that intelligence in the Cause is involved. For that implies intelligence in the First Cause, though it may not be in the proximate. If it be said the intelligence necessary to instinctive acts, is in the animals, our argument still holds good; for that view admits of final causes in organized nature, from which the further step is easy, namely, from mind in animals to mind in their First Cause. If, however, it be held, on the other hand, that animals act for ends, but are unconscious machines, the conclusion is the same; for we are then driven to infer intelligence in the First Cause.¹

Having found unmistakable signs of intelligence in the phenomena of the world, we are obliged to refer it to the world's cause. And as it could not originate in any second or intermediate cause, it must belong to the First. We need not here stop to point out the absurdities resulting from the stoical notion of a species of crude intelligence, or "seed of reason" attributable to the ultimate atoms of matter, or the Epicurean notion of atoms fortuitously jostling together until they all fell, accidentally and without design, into the admirable order of the present universe.

When men of the school of David Hume object that

¹ This conclusion would not be invalidated by adopting the theory that instinct is the effect of hereditary experience. For the accumulated experience of many generations, leading man and brute to betake themselves spontaneously without example or training to suitable means for self-preservation and growth, would equally require intelligence in its First Cause.

finding a watch, we infer it was made by some man because we know from experience that men make watches, but that we have no experience of a God making a world, and therefore cannot infer that this world was made by a God or intelligent Cause, the argument from final causes is misrepresented. Our inference is that a watch contains such contrivances and mutual adjustments for special ends, that if we had *no previous experience or knowledge* of a man-made watch, we could not but infer intelligence in the cause of the one thus found. Nothing less would be proportionate. Our experience of men making watches only *confirms* our inevitable inference of mind.

Spinoza's objection that the idea of an end not yet accomplished makes God imperfect so long as He lacks the realization of that end, if sound, would hold equally against Spinoza's Pantheistic God, which would be imperfect so long as any of the results it develops are unaccomplished ; and indeed against any theory which assumed the co-existence of the infinite and the finite. But it is really no imperfection at all in a Free, Almighty Being, that some of His ends as yet exist only in thought and purpose ; for all the perfection which their existence can bring Him is already potentially present in Him.

As little cogency is there in the objection that the doctrine of final causes means *supernatural interventions* incessantly engaged in all the processes of nature. For aught we know God may endow nature with qualities fitting it for its work ; or His energy may be directly engaged in every change. But in either case, the changes proceed according to law ; whereas supernatural interventions would be interference with law.

While not denying His power to intervene by extraordinary acts, we may affirm that His ordinary, uniform mode of action cannot be properly described as supernatural interventions.

The method of Agnosticism is to apply mind to the interpretation of nature, so as to formulate its laws ; but to assume that nature and its laws imply no mind in their origination and constitution. One wonders how a process so glaringly fallacious could ever hope to pass for intelligence. The laws thus discovered and formulated are discovered in and educed from nature, and therefore must have been in nature, or its Author, before man discovered them. What is interpretation of nature but finding out and presenting its meaning ? and what is "meaning" without mind to mean ? The interpreting mind succeeds just so far as it is able to read the mind exposed, or implied in nature. Properly speaking, interpretation is only of the words or work of mind—one mind unfolding the meaning of another. The necessary counterpart of an explaining intelligence is the intelligence to be explained. If nature corresponds to the intelligence of the human observer, it can only be because it is constituted intelligently, that is, by an intelligent being.

Emmanuel Kant, though constrained to acknowledge the persuasiveness of the physico-theological argument with men generally, endeavoured to invalidate it by contending that it could not do more than prove a very great architect of the world's form and order, not an infinite Creator. The questions of infinity and creation shall have attention in the sequel. At present we need only claim what Kant admits, that the order of the world implies an intelligent Author.

The argument may be summarized in the following syllogistic form. Final causes in nature imply intelligence in its First Cause. Proofs of final causes in nature abound. Therefore the First Cause of nature is intelligent. Of course, the minor premiss is the chief point of controversy. Enough has been adduced to establish it on a broad, solid foundation of evidence.

Proposition 5. The First Cause is a MORAL BEING.

This proposition is highly probable from His intelligence. We have no experience of reflective mind entirely destitute of moral quality. Nor is it easy to conceive how such excellent intelligence as belongs to God *can be* thus destitute. It certainly must perceive that moral qualities are appreciable to inferior minds, and on what grounds they are so. But is this possible to a mind, which at the same time is incapable of approving or disapproving actions, and of preferring one as intrinsically better than another? In our mental philosophy, we are in the habit of arranging the intellectual powers in one class, and the moral in another; and we may often fall into the mistake of supposing that what we separate in our categories are separate in themselves. But the human spirit is simple and indivisible. All its faculties, intellectual and moral, have one and the same essence. All its acts of reason, or will, are the acts of the same simple entity.

To suppose a rational being utterly devoid of virtue and vice, of free will, of moral character preference and perception, requires a power of imagination surpassing any yet known.

Assuming that conscience is our natural judgment applied to a moral question, differing from other acts

of the judgment, not in the nature of the faculty, but in the kind of subject to which it is applied, it becomes yet harder to think of a rational being capable of applying its judging faculty to all but moral subjects. As intelligence, so far as we have experience, is invariably associated, or rather identified with moral principle, it is unreasonable to suppose it is not so in the Divine Mind.

Two lines of argument from the facts of morality must be distinguished. What is often intended by the moral argument as distinct from the etiological is, like it, an *inference* of the unknown from the known. Finding in ourselves a moral judgment with a sense of obligation and responsibility, we infer that we are under moral government, and that there must be a moral Authority above us as the counterpart of our moral nature. The idea of a Moral Ruler corresponds to, and explains our moral nature. In the etiological argument we say this moral nature must have a cause, and to be adequate the cause must be itself moral ; and inasmuch as our moral nature contains means adapted to ends, *e.g.*, the fitness of conscience to promote virtue and happiness, the cause must be intelligent. In the merely moral argument we say our moral nature is inexplicable except on the assumption of a Moral Ruler ; *ergo* it is highly probable such Ruler exists. In the one case our inference of God's existence is based on our intuition of causality ; in the other on our intuition of moral distinctions.

There is nothing in the latter argument to prevent our treating man's moral nature as an important part of the events from which we infer a First Cause, which to be proportionate must be potent, intelligent, and moral.

Our moral consciousness leads us straight to the idea of God, not simply as the idea is responsive to, and explanatory of our moral instincts, but also as the moral facts necessitate an adequate cause. The one inference does not supersede, but powerfully confirms the other. Our business at present is with the moral system as an *effect* necessarily involving a sufficient moral cause. Profiting by the proof which has already certified the reality of an Intelligent First Cause, we now proceed to gather from the facts of the moral world that He is also a Moral Being. Knowledge of His moral character is the highest and most advanced position of natural theology, and is fitly preceded and underbuilt by evidence of His eternal, almighty, intelligent being.

(I) *Facts.*

(i.) *Moral qualities.* The idea of moral qualities is ineradicable from human thought. It is familiar to the illiterate man who has no power to formulate it in words, as well as to the moral philosopher. It would be as easy to confound right and wrong, as to confound moral with non-moral attributes. The essential difference between the ideas represented by such words as size, weight, colour, figure, and those represented by such as justice, benevolence, love, gratitude, hate, falsehood, is patent to every observer. The notion of moral qualities is also quite distinct from that of mere intelligence. Mental perception, memory, or reasoning, is not in itself morally good or bad. But love, righteousness, truthfulness, give the idea of moral goodness, as hatred, selfishness, insincerity, do of moral badness.

(ii.) *Moral judgments.* Whether we will or not some

actions command our approval as morally good, and others our disapproval as morally evil. These moral judgments, though sometimes at fault, are sufficiently uniform to show that they are not the capricious acts of the will, but proceed according to some law of the necessary and immutable opposition between right and wrong.

(iii.) *Freedom.* Each man is also conscious of moral freedom, a liberty such as could not belong to a bar of iron, or piece of rock—a unique self-acting power or originating motion good or ill—a true capability or moral action inconceivable of non-moral beings—moral agency.

(iv.) *Praiseworthiness and blameworthiness.* Concomitant with freedom is the sensitiveness to right and wrong—the sense of praiseworthiness or blameworthiness, in the exercise of freedom.

(v.) *Cognate responsibility.* The consciousness of good or evil actions naturally associates itself with the idea of rendering an account, or of receiving recompense, according to the moral quality of the action. There is an involuntary reference of the case to a greater authority. Even where the doctrine of rewards and punishments is ignored, it is felt that the actions *deserve* one or the other. Where a personal Governor of the world is denied, it is more or less expected that blind nature will exercise a retributive justice. When after some actions there follow to the agent self-complacency, satisfaction, inward self-approbation, and after others remorse, shame, self-disgust, it is felt that the consequence has a retributive fitness to the moral quality of the action.

Thus each man finds himself the subject of a moral

system, with its distinctions of right and wrong, its laws, its moral judgments, and judicial rewards and penalties.

(vi.) *Society.* Not only as individuals, but as societies, men are conditioned on the basis of a moral nature in each person. Hence springs up political government, which though not authorized to deal with vice except so far as it affects the Commonwealth, is assumed to have regard to the moral rights of its subjects. If, through fault of legislation or administration, it is seen that the gross offender escapes punishment, or the innocent is punished, it is felt to be an injustice.

(vii.) *Moral order of nature.* Moreover to man's moral constitution, the order of nature corresponds. Does he need the prospect of rewards or punishments as a motive to influence his moral conduct? In his own body, health or disease, life or death, pleasure or pain ensue as he restrains or unbridles his appetites and passions. The provisions of the external world stand similarly related to him. Poverty, excessive toil, social ostracism, or other form of adversity often follows as a natural consequence, in the train of negligence, improvidence, or vice; while the fruits of virtue are comfort, peace, and enjoyment of circumstances. The physical world is to a great extent adapted to man's moral constitution.

It is now for us to inquire how far this moral world implies a moral character in its Maker.

(2) *Inferences.*

(i.) *None but a moral cause adequate.* The facts of our moral nature and conditions demand nothing less than a moral being for their cause. Any non-moral cause would be alien in kind and deficient in degree.

Moral qualities are of the highest order known to us. In importance they rank above the intellectual, as the intellectual do above the material. Moral goodness is the paramount order of goodness, and moral nature the paramount order of nature. Moral excellence is of higher value, and more worthy of admiration, than any other. Moral power is immeasurably superior in dignity to any other. Man's free will, by which he becomes agent on his own account, exalts him vastly above everything else in the world, and invests him with something of the Divine. Among Divine attributes, the moral hold the first rank.

But can we conceive that this free agency, this highest element of human nature, was produced by a being destitute of it? Nothing less than a free being can produce a free being. All the virtue of the effect must have been at least adequately present in the cause. Hence this supreme quality of moral freedom in man must have been in the God who made him. Otherwise we must suppose the First Cause produced a creature far greater and nobler than Himself, which we have seen to be impossible.

If, as we are told by Pantheism, all moral states and operations, like the rest, take place by irresistible necessity, then vice is as necessary as virtue, and as good; that is, there is neither good nor evil. Neither possesses any moral quality. One act can be no more worthy of admiration or approbation than another. None are either worthy or unworthy. There can be neither moral actions, a moral state, nor a moral nature. Our ineradicable notion of moral distinctions has no counterpart in reality, at any time or place.

But as a matter of fact, we know we have a moral

nature, and that some actions are morally good, and others morally evil. Therefore the doctrine of Pantheism, which involves the impossibility of a moral nature, must be false.

(ii.) *Moral government implies a Moral Governor.* Man is evidently subject to moral government, which could not be without a moral Governor. He who caused our existence designed its moral conditions, and the moral order under which it is placed. But to do this He must Himself have a moral nature.

(a) For instance, in that system there are *moral judgments* in which conscience is daily approving or condemning. Whoever ordained this office of conscience as a part of human nature, must have had a distinct apprehension of the difference between right and wrong, and must have had moral right and authority to make the appointment. The judgments of conscience proceed according to some rule or principle, by which it acquits or condemns, whether it be some intuition, or some instruction from without. But how can that which has no power to perceive or appreciate moral goodness or badness, constitute, or even conceive, the idea of a being possessing such power? How can that to which moral qualities are no more than they are to a boulder, or a block of timber, endow another with the faculty of distinguishing moral qualities, and discriminating between them as good and evil? How can man have derived authority to pass judgment on the moral character of actions, from one who is as devoid of moral authority as of moral perception?

Moreover the moral system of the present life comprehends rewards and punishments, by no means fully adequate to deserts, yet sufficient to show that rewards

are intended for well-doing, and punishments for ill-doing. In the accusing and excusing of the thoughts, as well as in the events which so often bring physical or circumstantial retribution, there are distinct traces of a judicial system in the appointed order of the world. How could one who had no moral judgment or perception establish laws of retributive justice, meting out recompense according to the moral qualities of our actions?

Clearly the only satisfactory account of conscience is that which ascribes it to a First Cause possessed of a moral nature.

(b) The moral system under which we find ourselves reveals a *moral purpose* in its author. Man's constitution displays the preference of the First Cause for righteousness. He has so constituted conscience that it must bear witness for right, and against wrong. Its normal tendency is to side with moral goodness. Its rule is to proclaim the excellence of virtue. But that it should be so is the choice, not of man, but of the Author of his being. The declaration of conscience in favour of righteousness is really the declaration of Him who created conscience, which would be impossible were He destitute of moral character. It is evidently the purpose of Him who ordained our moral nature and conditions that we should choose between right and wrong, should be influenced by moral motives, and should acquire a moral character. But so to purpose is a moral act, impossible to any but a moral agent.

(c) Man is more or less *conscious of moral relations* with his Maker. What means his sense of duty, obligation, and responsibility? Does it not assure him that besides himself and his species, there is

Another and a Greater to whom he owes right conduct, as to the source of his being? Whatever his perplexity about invisible potentates, he cannot rid himself of the feeling that his respect and service are due to his Maker. But moral obligation or indebtedness can only hold towards a moral being. In that sense we can owe nothing to a tree, or clod, or non-moral object. The object and subject of duty, that is, of ethical obligation, are correlatives, and both necessarily moral. If, therefore, we owe anything of gratitude, homage, fear, love, trust, allegiance, or obedience, to the Author of our existence, He must like ourselves have a moral character.

(d) What is commonly called *Providential government* abundantly displays moral dispositions on God's part towards man. Despite the complaints of modern Pessimism, the knowledge of God is apparent in the manifold provisions for man's moral, physical, social, and external welfare. Were men all wise enough, and willing to make the best of the resources of nature, their happiness would be far greater than it is; and the beneficent provisions of the Author of nature would evoke much more appreciation and gratitude. But benevolence is a moral quality, and proves the moral character of the Great First Cause. Theism alone accounts for the moral nature we possess and the moral system under which we are placed by the Maker of ourselves and of the world.

(3) *Good Moral Character of God.*

The argument may be carried further to establish a broader thesis than that set forth in the preceding paragraphs, namely, to prove the *goodness* of God's moral character.

(i.) His *righteousness* appears in the universal and perpetual protest He makes against moral evil, and in behalf of righteousness, in the human conscience. Conscience, condemning wrong, and insisting on right, is God's voice, and a reflection of His character. "For when Gentiles which have no law do by nature the things of the law, these, having no law, are a law unto themselves; in that they shew the work of the law written in their hearts."

(ii.) The same lesson may be read in the respective *results* of right and wrong-doing, established by our Maker in the moral system of the world. The pleasure and advantage accruing from right conduct, and the opposite results from wrong conduct, act as powerful motives to virtue. The laws of nature, in the consequences they bring to vice, hedge us round with deterrents from evil ways, and incentives to good. Those laws, manifestly framed to encourage virtue, and deter from vice, declare the Law-giver to be opposed to all wrong, and entirely on the side of righteousness. "The Lord is known by the judgments which He executeth: the wicked is snared by the work of his own hands."

(iii.) The *benevolence* of God is easily read in His natural works. The mutual adaptations of the organs of the human body and mind, the provision of food, clothing, protection, means of acquiring useful knowledge, and supply of other wants, the subserviency of nature, animal, vegetable, and amorphous, to the interests of the human species, the benefits of family, friendship, society, and political order, and other aspects of the teeming bounty of Providence, show that the innumerable ends contained in the government of the

world are *benevolent*, as they are identical with the happiness of the creature, and especially man, the earth's paramount inhabitant, though his welfare is not the only end considered. To the pleasures of emotion, knowledge, reason, and imagination, and the felicity of his whole being, the vast treasures of nature seem intended to minister. Surely He who thus loads our race with daily benefits, is a God of sublime loving-kindness. "He left not Himself without witness, in that He did good, and gave you from heaven rains, and fruitful seasons, filling your hearts with food and gladness." His ways proclaim Him "good to all, and His tender mercies are over all His works."

(4) *Objections.*

The principal objections likely to be raised against what has been concluded, are the two following.

(i.) It is urged from the side of Pessimism that man's condition in this world is on the whole too miserable to be worth having. He is exposed to the pains and ravages of disease and mortality. Natural propensities render men the enemies and injurers of each other. Mental gloom preys upon man's enjoyment. Fears of future disaster and imaginary evils haunt his solitude. Nature fights against him by famine, plague, pestilence, storm, earthquake, flood, fire, savage beasts, noxious plants, social corruption, and accidents without number. The virtuous are crushed under the heel of cruel despotism, or ruthless misfortune. The vile inherit power, health, wealth, honour, and long life. Some Pessimists have gone so far as to maintain, that the ills of our existence are sufficient disproof of Theism.

In reply, it is to be noted, that so far as this objection has force, it can only be against our *addendum*, that

the Author of the world is righteous and benevolent; not at all against our principal proposition, that He is a Moral Being, which affirms not whether His moral attributes be good or evil.

Further, the description just given of "the ills that flesh is heir to," while true so far as it goes, is a one-sided view, and more than counterbalanced by evidences of moral goodness. The calamities that happen are the exception, and provision for peace and plenty the rule. Human experience is not made up chiefly of adverse accidents, but largely of the pleasures of hope, or possession. Life by the great majority, is deemed worth guarding with supreme tenacity. "Skin for skin, yea all that a man hath will he give for his life."

Again, the sum total of human enjoyment might be much greater than it is, if all men made the best of their resources. Much of our misery is brought on ourselves needlessly by neglect, or abuse of natural laws. Voluntary intemperance of appetite, passion, ambition, selfishness, and indolence deprive mankind of immense treasures of enjoyment, and, in their stead, entail incalculable suffering. It is to a large extent in the power of social communities, as such, to convert their privations and miseries into comfort by improved internal and external arrangements.

Again, it must not be forgotten that the operations of nature, like a body politic, are carried on by general laws, which though well fitted to promote the happiness of mankind at large, in their incidence frequently cross the apparent interests of innocent individuals. For instance, the sun whose warm beams revivify the face of the earth, loading it with a ripe harvest sufficient to fill the garners of the nations, also with his

“stroke” lays prostrate a useful member of the human family; yet the influences of the sun are far more beneficial than injurious. The atmosphere, which purifies the life-blood of hundreds of millions, is now and then agitated to the hurricane pitch, and with resistless energy sweeps the beautiful ship and its living freight into the jaws of death; yet mankind on the whole is unspeakably indebted to the beneficent action of the atmosphere. So if all the natural benefits available for man were weighed against all the unavoidable evils, the preponderance of the former would probably be as a ton to a feather.

Incidental evils result from the universal stability of law, which is the cause of countless benefits; a stability without which the present evils would be many times multiplied, and the present benefits lost.

Moreover, it is not uncommon for nature to bring a greater good out of a smaller evil; as when the pains of travail are forgotten in the “joy that a man child is born into the world”; or when exhausting toil is followed by delicious rest and plenty; or bitter experience of hardship by consequent wisdom, pleasant, and useful, through subsequent years; or the drudgery of youth at school by the power and blessing of knowledge, through a long course of life. Probably many things which at present seem only hurtful to us may, at a more advanced stage of knowledge, appear but needful stepping-stones to far greater good.

And yet again, it must be observed, that the motive and end of natural sufferings are directly opposite to the selfishness and malevolence which prompt wicked men to inflict suffering on their fellows. A burglar strikes down an innocent citizen, in order to take

possession of his goods; a murderer deprives his neighbour of life, in order to gratify a malignant spirit of revenge. But in the course of nature, the temporary disaster is but the rough road to some advantage of far greater magnitude. Pain is never caused *per se* as an *end*, but only as the means of greater good, or as an incident in the operation of a beneficent system. Nowhere is malevolence necessary to account for the effects of nature's laws.

Once more, notwithstanding the above replies, it may be frankly confessed, that nature does not *fully* explain itself on this subject. Much of human unhappiness and moral failure, viewed in the light of nature only, is inexplicable, suggesting that there may be causes which cannot be discovered, except by some other means. Given, an intelligent First Cause of perfect moral character, the Author of our world; how comes it that the world contains so much moral evil, suffering, and death? Nature can but very partially answer the question. But assuming the gift of a supernatural revelation, unfolding the origin and history of the human race in relation to the world and God, it might then appear how the evils under which men groan had their origin in some great breach between man as a free agent, and God as the Moral Ruler of the world; and it might also appear how the large proportion of good remaining in man's possession, or hope, was due to some supernatural plan of recovery, now in process of being carried out. Certainly, nature suggests no antecedent improbability of such an explanation. In the lips of a Christian Theist, it is pertinent to the objection under notice to say, such a revelation is necessary to complete his theodicy,

though apart from that there is nothing in nature to disprove the perfect moral excellence of nature's God.

(ii.) It has been contended by materialists, that the present moral order is the result of *evolution*. Men gradually found out by experience what was useful, and therefore desirable ; and in the lapse of ages they formed the habit of setting a high value on those actions which were useful, and attaching the idea of demerit to actions of an opposite tendency. Thus the conscience of mankind was formed, and improved from generation to generation. According to this theory, a moral First Cause was unnecessary.

It must be borne in mind that this is *nothing but a theory*, and is refuted by the evidence already adduced to prove there is an intelligent, moral First Cause of the world.

It is further condemned, as it conflicts with the reality of intrinsically moral qualities, and the essential difference between right and wrong, as testified by consciousness. Conscience is different from, and much more than, a calculation of utility. It pronounces judgment upon the intrinsic quality of actions, independently of the agreeableness or disagreeableness of their consequences.

Furthermore, if this evolutionist theory were true, it would not dispose of the moral argument, but merely shift the question of moral causation to an earlier stage. If morality be the outcome of man's experience of what is useful, and what is not, we have then to ask whence the wise and benevolent arrangement enabling and disposing men to learn which ends were good, and which actions were fitted to effect them ? To what do they owe this beneficent endowment for finding out and

enforcing morality, but to their Maker? Who but He ordained the fitness of certain actions to produce happiness, and of others to produce misery? And why should their respective tendencies not have been directly opposite to what they are, so that what we now call vice should have produced happiness, and virtue misery? or why not sometimes one way, and again the opposite? Why, except that there was an *inherent* fitness in each to produce what it does produce, and an inherent unfitness to produce the opposite effect?

The theory of the origin and growth of morals by experience and association, without a Divine Author, ignores the true essence of morals, and fails to account for moral facts, after dispensing with a benevolent First Cause.

Proposition 6. The First Cause is a PERSONAL BEING.

Under this head we have to do, not with the etymological, but the modern philosophical meaning of the word person. In this sense a person is a *self-conscious moral agent*, distinct, as an individual, from all others, and identical with himself at successive periods of existence; one who can speak of himself as *I* and *Me*, can be spoken to as *Thou* and *Thee*, and spoken of as *He* and *Him*. The essence of personality is self-conscious intelligence, and moral freedom.

The truth of God's personality is implied in the positions already established. The First Cause, being intelligent and moral, must be personal. Indeed, it is involved in the very *idea* of causation, which, in its high and proper sense, includes the notion of freedom, and agency. Hence in seeking a cause of the world, we

are never satisfied with second causes, but feel sure that somewhere behind them, however far back, there was a will at work. The only true and original cause must be *free*; nothing less is worthy of the name.

This truth is, however, confirmed by the fact, that this personality corresponds to, and meets the natural craving of the human mind for, a personal God. This inveterate religious tendency compelled Comte, after he had abandoned God, to invent a religion for his disciples, offering them human goodness for the object of worship. However puerile the substitute, he was obliged to recognize the fact, that mankind must have a religion of some sort, with something moral as the object of its profoundest emotions.

The human heart, especially in its sincerest and most earnest moods, looks instinctively for a being of great power, whom it may honour, trust, love, and serve. Man finds himself endowed with a *religious* nature, as truly as with a moral; he is fitted for communion with a Divine Governor, as well as with individual members of his species. The needs and longings of his spiritual nature are not met until he thinks of some great Being, who may protect him in danger, and relieve him in want; to whom he may appeal against injustice, and from whom he may receive kind and merciful treatment—some august Being, to whom he may render homage. This tendency may be warped by ignorance or perversity, and misdirected to unworthy objects. In some men it may be highly developed, and in others barely traceable; but in a higher or lower degree, it is characteristic of humanity.

To this natural craving a personal God is the only

satisfactory response. A God unconscious and non-moral is no more an object of religious affection than is a granite mountain. Even, when grovelling in most abject superstition, a man makes a fetish of a stick or stone, he associates it with personal qualities. Confidence, love, reverence, must have for their object one who can appreciate personal dispositions, which requires that he be himself personal. Towards a subtle, all-pervasive, impersonal force, or blind necessity, I can feel no gratitude or esteem, any more than I can for unorganized matter. It cannot command my adoration, win my love, or engage me in intelligent communion. Hence Pantheism, like Atheism, fails to satisfy man's religious instinct.

Our religious tendencies are an effect of the world's First Cause, and cannot be content, or answer their natural end, until they centre in a Personal God.

The bearing of this truth on others is immense. On the personality of God depends the possibility of supernatural intervention. If Atheism or Pantheism be true, there can be no such thing as a miracle, or supernatural revelation. All must proceed according to stern, unthinking necessity, to which all power is entirely subject. But if there be a personal God, His power over nature is supreme, and put forth according to His sovereign will, counselled by His intelligence. To deny this is to deny Him the freedom which personality necessarily implies. If He be intelligent and free, there can be no law of nature, though established by Himself, of which He is not master. To suppose otherwise would involve the self-contradiction that, by creating the world, He surrendered the freedom which is necessary to Him, that is to say, He who cannot

but be personal, ceased to be personal. A personal God may intervene in nature, may supernaturally reveal Himself, and may attest the revelation by miracles.

*Proposition 7. The Personal First Cause is ONE
AND SIMPLE.*

(1) *Parsimony of causes.* Under the law of parsimony, science strives to reduce all chemical substances, all mechanical forces, all variety of colours, to the smallest possible number, and to refer all the diverse phases of intelligence to a few general faculties, such as perception, memory, and judgment, or to regard them as but different aspects of one mental power. The same principle, on a broader scale, prompts desire to simplify the causes of the universe, by tracing them up from millions of events to a few sources, or better still, to a single source.

This tendency belongs to Materialism, Pantheism, and kindred systems, as well as to Theism. Pantheism affects to find the ultimate unity in the substance of the universe, though it is really a vast multiplicity of parts. In its eagerness to trace all to a single source, Materialism makes matter the first cause, though again, it is in its atoms, and their mutual relations, a manifold and immense complexity, incapable of being the First Cause. These systems are right, however, in rejecting all superfluous causes. When, under the guidance of this law, we have passed beyond the sphere of second causes, we naturally continue our pursuit of a simple cause of all.

No other system answers to this demand so well as Theism, according to which all the myriad lines of

causation meet, and unite in the one, simple, eternal, self-existent First Cause.

(2) *The original cause not complex.* The First Cause cannot be complex; for a complex cause consists of parts acting in concert, which instead of discovering the original, only prolongs our search by raising the question, what is the cause of this harmonious and efficient conjunction of parts? How came they to be mutually adjusted? Thus we never reach the First Cause till we get beyond the compound, to that which is one, simple, and indivisible.

(3) *Unity of plan.* The simplicity of the First Cause is confirmed by the unity of plan on which all nature is governed. All is subject to a system of law, which is uniform always and everywhere within the wide range of experience, and by generalization, we know it prevails in the much wider region beyond. The parts of the universe are mutually adapted, and co-ordinated. The order of succession is always the same under the same conditions. Typical forms show how countless complex developments branch out of fewer and simpler. Without adopting what is alleged on transmutation of species, or endorsing the statement, that "the animal is an unfinished man," it is plain one species is a variation of another, not necessarily in the actual mode of producing them; but in the ideals on which they were designed. Beginning with the simplest forms, extensions and modifications are traceable up to the most complicated structures of the animal kingdom. Hence some have fallen into the mistake of supposing all organs are but modifications of one, which modern science has disproved; and others have jumped to the conclusion, that when two

species are very much alike in structure, one must have actually grown out of the other. This, however, is but a section of the plan, which is seen to embrace all departments of nature. Every part is ruled in relation to the rest. There is evidently one plan, which could not have originated in a plurality of causes.

The sun and planets are all fitted to each other so that each occupies its own place, and accomplishes its own function in relation to the rest. Consequently, the mind which determined the place and action of any one, must have had all the rest in view. The same law of gravitation unites all celestial bodies. All animal and vegetable life, and innumerable processes in the inorganic portions of the earth, are dependent on the influence of an orb more than ninety millions of miles distant. Our globe is set in order with worlds, far beyond the solar system. The admirable way in which plants and animals, matter and mind, chemical elements, mechanical forces, and changes of "mass," are adapted to each other, and to the harmonious procedure of nature, shows that the whole must have been schemed, and is now governed by some *one* mind. The correlations are so universally present as to render the whole a "*system of nature.*"¹

The same plan may be traced in the moral world. Instinctive notions of right and wrong, the sense of duty, ethical laws and sanctions, freedom and responsibility, adaptation of physical and intellectual to moral conditions, social and political relations, all over

¹ The Duke of Argyll has elaborated this idea of unity, as displayed in the universality of gravitation and of pure ether, and other phenomena (*Unity of Nature*, chap. i.).

the world are framed after the same ideal, all diversities notwithstanding. They are suited to each other, and betray a common origin.

This oneness of plan admits of no explanation, except as the scheme or design of a single master mind, "who looketh to the ends of the earth, and seeth under the whole heaven." The one cause of the plan cannot be matter, because that consists of many, and is unthinking, and ever changing. The particles of colour so arranged as to present the beautiful picture, are so arranged, not by themselves, but by the *mind* of the artist. So the light suits the eye, the air the lungs, and all things in nature suit each other, not by any invention of their own, but by some one mind which could perceive and control the relation of every portion to the rest.

Kant calls this natural tendency of the mind to trace out the harmony of the universe, and ascribe it to one master builder, "the architectonic propensity of reason." But the unity of plan is an objective reality, which can only be accounted for by a real and adequate cause. And no cause can be adequate but a single, indivisible, omniscient mind.

Proposition 8. The First Cause is INFINITE.

(I) *Definitions.*

While denying his consequences, we may safely accept Sir W. Hamilton's definition of the Infinite as "that which is free from all limitation; that than which a greater is inconceivable." The words are negative, but the idea to which they are applied is pre-eminently positive. The definition assumes the reality of being, and only negatives its imperfection.

The notion of non-limitation must correspond to the nature of the subject. For instance, infinite matter would mean matter extended in all infinite space. "An infinite spirit," says Professor Hodge, "is a spirit to whose attributes as a spirit no limits can be set." Infinite duration is duration without beginning or end. Infinite power is that which is limited by no other power, or is without restriction. Infinite knowledge is that which knows all things, actual or possible. If we apply the word to moral qualities, we mean that they are without imperfection or defect. Infinite goodness means all possible or conceivable goodness, without anything contrary thereto.

With the school of Hamilton, the infinite is closely related to the *absolute*, which he defines as "that which exists in and by itself, having no necessary relation to any other being." This perfection of the First Cause we have already ascertained in His self-existence, and need not here refer to it, except so far as it affects the question of His infinity.

(2) *Finite effect not sufficient proof of infinite cause.*

It must be freely acknowledged that the finite universe, considered merely as an effect, does not demonstrate the infinity of its First Cause. And it is equally true, that it cannot prove the contrary. While it would be impossible for a finite cause to produce an infinite effect, it is by no means impossible for an infinite cause to produce a finite effect. A cause, or more strictly a being which causes, may effect a result less than itself, but never greater; for it cannot give what it does not possess at least in equivalence, but it may give less.

If it be objected that we cannot *conceive* how the in-

finite can produce the finite, it is sufficient to answer, that we are equally unable to conceive how the finite can produce the finite. There is no absurdity in either case.

(3) *Alleged gulf between the infinite and our thought.*

Kant and his followers have sought to prove a gulf between the finite and the infinite, which human knowledge cannot pass. It is contended that the argument from causation cannot go beyond experience, and also that the absolute and infinite are beyond the possibilities of our knowledge.

As to the first objection, we need not be concerned whether the lessons of experience can carry us to the knowledge of the infinite, so long as *reason* can. The argument has assured us of the existence of an eternal, personal First Cause; and from that position we may proceed, though not empirically, to assure ourselves of His infinity. Kant may be right in saying the infinite Being "cannot be discovered by means of experience," if he mean experience *alone*, independently of all reasoning that may supervene. But using the lights of experience we may advance, by means of reason, to further conclusions. To deny our right to carry logical inference beyond the bounds of experience, is to beg the question. Legitimate evidence is not to be thus ruled out of court. To object that we cannot bridge the chasm between the finite effect and the infinite cause, by the evidence of causation, is like saying we cannot bridge a natural chasm by the macadamized road which leads to it. But as by *another* kind of structure of timber, or iron, we may span the natural chasm, so when the evidence of causation has served us to the extreme verge of the finite, we may employ another kind, metaphysical, or psychological,

as more suited to the purpose of connecting our thoughts with the infinite and unconditioned.

When the attempt is made to confine our reasoning to experience, it is well to inquire into the *extent* of our experience. Most of our knowledge is obtained, not from experience alone, but from that and *generalization*. The facts known to us directly are comparatively few ; the great bulk are unseen, and inferred. For example, we observe, in a comparatively few times and places, that water solidifies at a certain degree of temperature, and infer that it does so always and everywhere throughout the globe. We ascertain the exact force of gravitation at a comparatively few points, and infer that it is so under all similar conditions. In many cases we find that oxygen and hydrogen united in certain proportions form water, and conclude it to be the same in all cases. The knowledge gained by immediate personal experience is infinitesimally small, compared with that acquired by synthetic generalization.

As to causation. Examining the multitudinous fossil forms in the earth's crust, we infer they must have been caused by great numbers of animals and plants, once alive on the face of the globe. Observers of the Nile at its delta inferred, that it must have a source in the interior of Africa, long before the exact locality was known. If it be legitimate thus to infer the unknown from the known, to argue from what we experience to that of which we have no experience, why not also to argue from the known effect to its unknown cause, God ? And if further we see reasons for concluding, that such cause beyond our finite world must be infinite, the process is legitimate.

The word "experience" is ambiguous. Does it mean only our sensible contact with material phenomena? Then it is by no means commensurate with our knowledge; for it does not include our primary beliefs, nor our inductive and deductive conclusions. Does it comprehend all these elements? Then it includes all our knowledge, physical and metaphysical—even our knowledge of God, inferred from His works. We cannot allow our knowledge of God to be taken away by the arbitrary definition of a word.

Kant's objection is aimed against not only infinity, but the inference from nature of a "Supreme Being," including in that phrase unity, absoluteness, and infinity. We have seen that an Intelligent First Cause may be inferred from the manifestations of efficient and final causation. That we have to pass beyond our actual experience in finding Him does not destroy the cogency of the inference. Nor does it destroy the character of the inference, as one based on experience. But in this place we have to do with Kant's objection only so far as it relates to infinity.

As to the objection that the finite mind cannot think or know the infinite, the statement is ambiguous. We cannot comprehend—that is, think or cognize—all that is comprehended in the infinite; but we can easily think of a being as infinite. That the idea of infinity is conceivable, is evident from the readiness with which the Hamiltonian school contrast it with the finite. We cannot comprehend or imagine all the duration denoted by eternity, or all the space denoted by immensity; but we have no difficulty in attaching a rational meaning to the words—nay, we cannot but think of infinity, if we think of the finite as such. To say we cannot cognize

all that is in the infinite, is to say what may be as truly predicated of our cognition of the finite. We think of the sea, the globe, or the solar system, without being able to cognize a millionth part of its contents.

(4) *Reasons for believing God Infinite.*

(i.) The finite universe is so incomputably vast, and so marvellously well constituted and ordered, that it naturally *suggests* the infinity of its author. Its magnitude, its innumerable ingredients, its operations and resources, are to us *practically* infinite, that is to say, their effect upon us is as if they were infinite. All human comprehension fails to enclose more than the merest fraction of them. While the mightiest human mind understands what is meant by a million objects, it can only give direct attention to a few of them at once. How much less able is it to expand its thought over all the area of creation, or to estimate the power expended upon it! We may continually enlarge our view of the universe; but life is too brief for even thought to glance at every part. Under a sense of the immeasurable disparity between the greatness of the universe as an effect, and our utmost endeavours to comprehend it, we find it natural to think, He who produced such an effect must Himself be infinite. It requires a mental effort not to think Him infinite.

(ii.) In the interests of ourselves and the world, we instinctively cling to the idea of unlimited resources in the Maker and Ruler of all things. The notion of His being limited inspires fear, and dread of a tremendous crisis, through some failure of those resources. We know not but disorder may at any moment gain the mastery, and plunge all into wreck and ruin. To have all our experience underlaid with the conscious-

ness, that He who is Lord of all cannot be thwarted, baffled, or resisted through any limitation on His part, inspires confidence in the supreme control for the present and the future. On this account it is not easy to divest ourselves of the belief that He is under no restriction.

(iii.) In respect of duration God is already proved infinite (Prop. 2). If infinite duration may belong to Him, why not an infinite presence and power? Considered as the First Cause, the question of infinity is chiefly one of *power*. We cannot conceive of His being an almighty, intelligent Being, and at the same time unable to accomplish His ends by suitable means. So that, in an intelligent being, infinite power may be taken to involve infinite wisdom.¹

But infinite power does not mean that He can do that which, when stated in a proposition, is a self-contradiction. For instance, that He can make a thing be and not be at the same time, in the same sense; or that He can make a square circle. It is no derogation from the perfection of His power that He cannot do that which our very laws of thought declare cannot be. God would be less perfect than He is if He could annihilate Himself. The true notion of infinity, and the only one worth contending for, is that which is an excellence, and not that which would be a defect, or fault.

(iv.) Then if the personal cause of all other existences

¹ "If the First Cause is absolute, it will be so in all its attributes: being by hypothesis intelligent, it will be omniscient; being powerful, it will be omnipotent; being good, it will be perfectly good, and so on" (Janet, *Final Causes*, p 336).

be a necessary, self-existent, eternal Being, how is it possible, or conceivable, that His power should be limited? If limited, it must be from without, or from within Himself.

As to limitation from without, all other beings are from Him, at His beck, and entirely dependent upon Him. All their power is derived from Him, and subject to His recall. There is no power but of God; therefore, none that can set bounds to His.

As to restriction from within Himself, it is quite inadmissible; for it implies that His power limits His power. But that which limits in such case, and that which is limited, are all His (*ex hypothesi*). Consequently there is no power but His; therefore none to limit it. Seeing then His power can be limited neither from within, nor from without, it follows that it cannot be limited, but is infinite.

In order to disprove infinity, limitations are sometimes alleged which are spurious, as they imply no imperfection, which is the only proper test. For example, supposing God infinite, it is said the creation or co-existence of a finite being conditions or limits the Supreme. Indeed it is urged that for God to have any *relations* with a second being is a condition, and limitation to Him. But a limitation of what? Does it lessen His power? or knowledge? or wisdom? or goodness? That second being is completely subject to His will. Whatever power is put forth in its creation, or sustenance, makes no diminution of the power in Him; and even if it did, since its withdrawal would be at His option, it would not cease to be His. We may boldly deny that to enter into relations with another contracts His power. It would indeed be a

limitation, and imperfection, if the Infinite and Absolute One could *not* create without thereby losing His absoluteness and infinity.

Falling back on Hamilton's definition, we may confidently affirm that, *with* relations to the work of His hands, as truly as without, God is "free from all limitation," than whom "a greater is inconceivable." In either case, He "exists in and by Himself, having no necessary relation to any other being." His creation or government of an inferior being does not diminish His power, nor place Him below our highest conception of greatness, nor make Him dependent in the slightest degree; nor is His relation to that finite being "necessary"; for He entered into it of His absolutely free choice, and continues it by the same.

To take a second example, Mill's instance is equally spurious, and still less plausible, when he argues that God cannot be infinite because He does not prevent the pains and calamities which the course of nature inflicts on man, as in fire, flood, famine, and childbirth. Mill's contention assumes that God's infinite power must be exercised according to *our* judgment of what is best to be allowed or prevented. A supreme Moral Ruler may have the best moral reasons for not preventing, perforce, particular instances of human suffering, not to mention that they may be the exceptional incidence of beneficent general laws.

(v.) We have a perfect right to appropriate here whatever help there may be in the ontological argument in support of God's infinity, as additional to the foregoing reasons. Kant tried in vain to explain away the demand of our minds for the infinite, by maintaining

that our ideas of a supreme infinite cause are "*regulative*" only, and not "*constitutive*"; that is, they are a useful and unavoidable hypothesis, or ideal, but may have no counterpart in reality.

The idea of infinity has taken possession of the human mind, and affords the fullest and most satisfactory explanation of the world. The ontological argument asks, whence the idea, if there be not a reality corresponding? Kant replies, such ideas are "*needful*" to enable us to form right conceptions of nature. They are, he says, a natural and useful tendency of the Reason, but there is no proof of a being, of whom these ideas are attributes. But is the proof not in the presence and fitness of the ideas themselves? We have to account for the ideas and their use in helping us to understand the existing order of things. It is not a sufficient account of them to say they are "*regulative*," but have no correspondent reality; for that makes them a useful fiction, and leaves them still unaccounted for.

On the other hand, it is a sufficient account of them to say, these ideas of which the reason cannot rid itself, and which afford the best solution of nature, correspond to the attributes of Him who is the infinite source of being and life. Or even if the explanation of the world, which they afford, be ignored, the idea of infinity, so indigenous to the human mind, goes far in teaching that something must be infinite.¹ This ontological argument is at once independent and corroborative of those which immediately precede it.

¹ "We have a sense of the infinite, which is vague and void until filled with God."—*Professor Hodge*.

It would not be difficult to extend the general argument for proof, or confirmation of other Divine perfections. Let it suffice for our purpose that, by the light of nature, our reason is convinced of the existence of the world's First Cause, self-existent, eternal, infinite, intelligent, and holy, the true and only God.

PART IV.

*HOW THE THEISTIC ARGUMENT IS AFFECTED
BY THE ADVANCES OF SCIENCE AND
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THIS question must not be confounded with an inquiry into the *spread* and *prevalence* of Theistic or anti-Theistic opinion. To assume the wider extension of anti-Theistic views would not imply any improvement in their evidential grounds. There is a fashion in this as in most matters. In some quarters it appears to be deemed the proper thing to affect scientific airs, as against religion. It may be that Atheism, theoretical or practical, is more extensively favoured now than at some previous times ; and that too under the pretext of preferring science. Our question is not whether, side by side with the advances of science, the proportion of Atheism to Theism has increased ; but whether, and how, the logical bases of Theism have been affected by those advances.

None but weak, or ill-informed Theists can be shaken by such boasts and terrors as the following :—“ Even science has now herself thrown down this trusted barrier (law) ; the flood-gates of infidelity are open, and Atheism overwhelming is upon us.” “ Inexorable logic has forced us to conclude that, reviewing the question as to the existence of a God only by the light

which modern science has shed upon it, there no longer appears to be any semblance of an argument in its favour." Suspended judgment as to the being of a God "is the attitude which the majority of scientifically trained philosophers actually have adopted." "Theism in any shape is, scientifically considered, superfluous."¹

It cannot but be lamented that the faith of him who wrote these sentences should have been wrecked, especially by such invalid arguments as he offers for the world's conversion to Atheism. But the cry that true science has taken sides against Theism is a libel on science, and a false alarm to faith. The extent to which Atheism has spread its influence among the thinking, and unthinking classes, is difficult to ascertain with precision. It may be admitted, with feelings of deep regret, that Atheism was never more bold and aggressive, and probably never asserted itself more persistently among both educated, and illiterate; but to affirm that it has taken possession of "the majority of scientifically trained philosophers" is a great exaggeration. However that may be, Theism has nothing to fear, but everything to hope, from the increase of accurate knowledge of nature. If believers yield to the false cry that science is antagonistic to religion, one thinks it must be from want of acquaintance with the invulnerable defences, which they timidly surrender.

"Physicus" professes to seek "to fix the precise standing of the evidence in favour of the theory of Theism, when the latter is viewed in all the flood of light which the progress of modern science—physical and speculative—has shed upon it."² I am convinced

¹ *Physicus*, pp. 51, 52, 64, 70, 72.

² P. 11.

that from a fair application of this test, the cause of Theism must emerge a considerable gainer.

I. *Theistic evidence strengthened by advances of science and philosophy*

Physical science, by the number and brilliance of its triumphs, more especially during the present century, has won for itself a marvellous prestige. For the present its approving nod is coveted for ideas quite outside its circle, and many seem to assume that it is the rightful arbiter on all questions on which its disciples may choose to pronounce in its name. Its best exponents, however, are the readiest to admit that it is as yet very incomplete, its immense successes notwithstanding. They tell us, not only that there are, and always will be, many mysteries of nature, but that, of the vast field of natural knowledge which human research may hope to explore, a large proportion remains a *terra incognita*.

Nor must we imagine that the creed of science has been one of clear infallible truth, distinguished by no change but that of healthy growth. I do not wish to lay undue stress on Dr. Stallo's *Some Concepts of Science*, in which the leading tenets of the most approved physical science are attacked, by a mind of remarkable familiarity with the questions discussed. It shows, however, that confidence in the most recent advances of science has need to be mingled with caution. Science has had its controversies in proportion to the amount of attention it has commanded. Its disciples, like theologians, have had to "hark back," and recant their errors. Doctrines long accepted as established truths have frequently turned out to be alloy, which had to be eliminated. As Sir W. Herschel had to unlearn his

first theory of the nebulæ,¹ so have many later scientists, on further inquiry, been obliged to reverse or modify their first conclusions. Benjamin Franklin's papers on electricity were read in the Royal Society of London amid roars of laughter, yet were afterwards accepted as sound. Leibnitz controverted Newton's *Principia*. The old doctrine that the planets were kept in their orbits by the opposite action of centripetal and centrifugal forces, has become obsolete. Count Rumford's experiments on heat and energy, at the close of the last century, were ridiculed, or neglected for forty years, and to-day their lessons form part of established science.² There is no need to blame anybody for such mistakes; they are inevitable to fallible men seeking truth in nature, even when they do it from the highest motives. But they may serve to remind us that error may sometimes pass for scientific knowledge.

It may also happen that a proficient scientist is by no means the best qualified to pronounce on theological questions. They are outside the special province to which his attention may be so exclusively given as to unfit him, through want of information, or through contracted habits of thought, for judging of matters metaphysical, and spiritual. But that scientists of ripest knowledge and highest faculties may be, at the same time, among the most devout and intelligent Theists, is matter of well-known history. We cannot forget men of the type of Boyle, Newton, the Herschels, Hugh Miller, Faraday, Whewell, Lyell, Brewster, and Buckland in the past; and amongst the living or but recently gone, Sir William Thompson, Tait, Mivart,

¹ See Proctor's *Borderland of Science*, p. 10.

² See Tait's *Recent Advances*, pp. 341-350.

Parker, and Dallinger—men of the stamp of Clerk Maxwell, who in his last illness observed, "I have looked into most philosophical systems, and I have seen that none will work without a God." A Clifford, or a Haeckel, may abandon all religion, but not as the logical necessity of true science. Even Professor Huxley, free as his lance has sometimes been against theology, refuses to be accounted an Atheist. In many scientists of foremost rank remains the devout faith of Kepler's prayer, "Oh Thou who by the glorious light which Thou hast shed over all nature, raisest our desires up to the sacred light of Thy grace, in order that we may be one day transported into the eternal light of Thy glory, I give Thee thanks, my Lord and my Creator, for all the joys that I have experienced, in the ecstasies, into which I have been thrown, by the contemplation of the work of Thy hands!"

Sound theology has much more to fear from ignorance and superstition, than from a true knowledge of nature. Increased scientific knowledge is theological gain. All truth is one. All individual truths agree with each other. Hence, assuming the truth of Theism, no other truth inconsistent with it can ever be discovered. False science, or false inferences from true science, may clash with true religion. But true science and true religion are homogeneous, as beams from the same sun. It is to the interest of Theism that our knowledge of nature should increase. The essential harmony of the two subjects will appear in proportion to the fulness and accuracy of our views.

Science and art are mutually helpful. Science has led to the invention of improved instruments, which in return have enabled science to greatly enlarge its stock

of knowledge. Thus the telescope and the microscope have brought into view immense fields of nature teeming with wonders, and all in harmony with the portion of nature previously known. Nature has been found a much greater thing than our fathers supposed it to be, both in its magnitudes and its minutiae. Notwithstanding much hasty generalization, which Sir John Herschel called "the bane of Science," the patient, truth-loving investigations of scientists have laid civilization and theology under obligation, by the rapid accumulation of natural knowledge. Since the observations of the Herschels increased the number of known nebulae from 492 to 5,200,¹ the range of astronomical knowledge has been greatly extended. Many new planets, comets, and stars have been discovered; distances have been more accurately calculated; acquaintance with meteors, star-dust, and the composition and condition of celestial bodies has advanced apace; spectrum analysis has enabled men to analyze the rays of light, and to find out much about the chemical constituents of the luminaries whence it radiates; eruptions and earthquakes have come to be better understood, and are seen to belong to nature's beneficent provisions.

Geology, despite all it has had to unlearn, has spread before us valuable treasures of knowledge, not only respecting the history of our earth's crust, but the variety, plenitude, and antiquity of mundane life. And as Whewell argued, it has shed its light on astronomy, affording the analogical inference that as the earth was so long unpeopled, so may the celestial orbs be now.

Natural philosophy, by observation experiment and

¹ Proctor, p. 12.

induction, has pushed its investigations in mechanics, chemistry, and the structure of matter and force, reaping a rich harvest of scientific truth. Not until recently was it understood that the total amount of energy in the universe, like the total amount of matter, can neither increase nor diminish, though it may be continually transformed, say from light to heat, or from heat to motion, and though it may in a sense be "dissipated" or pass into less active conditions.

A drop of water one-eighth of an inch in diameter, which to the unscientific eye might seem an ultimate simple particle, is computed to consist of about one hundred millions of millions of millions of millions of particles, to one of which the drop stands in about the same proportion as the whole earth to a cricket ball. Again, the particles of a gas are computed at about the two hundred and fifty millionth part of an inch diameter; and the average distance of the spaces between them not less than the five hundred millionth part of an inch. These particles are in rapid motion, despite their impinging against each other. "One of the results arrived at," says Professor Tait, "is that in a mass of hydrogen at ordinary temperature and pressure, every particle has on an average 17,700,000,000 collisions per second with other particles, that is to say, 17,700,000,000 times in every second it has its course wholly changed. And yet the particles are moving at the rate of something like seventy miles per minute."¹ The heterogeneity discovered within extremely small particles has revealed a world within what was deemed a mere uniform speck.² Electricity, though still as-

¹ See *Recent Advances*, pp. 4, 315, 324.

² Among the many discoveries of Clerk Maxwell we learn

sociated with mystery, was never before so familiar to us; and the new uses to which it is being adapted promise to enrich mankind.

Equally wonderful are the revelations of Biology, both in the minuteness and number of its objects, and in its wide range of experiment and observation. Myriads of living beings are found where nothing but amorphous matter was supposed to exist. Knowledge of the flora and fauna of the world has been carefully reaped from land and sea, with a marvellous rapidity of accumulation. From the advances of physiological science in recent times, the gain to human life is exceedingly valuable. Side by side with these rapid strides in different branches of physics, has been the march of science in the regions of mind, ethics, and political economy.

Now the thought to be particularly noted is, that while the knowledge of nature has made such astonishing progress, it has never brought to light a single truth contradictory of Theism. Nay, its bearing on that subject has been to multiply the facts which point us to the First Cause. What is this immense array of additional knowledge but a wider manifestation of the wonderful works of God?

In every extension of science we find a corresponding extension of order, law, co-ordination of means to ends, and harmonious arrangement. The newly found

that the colour of light vibrations is determined by their rapidity: the sensation of deep red involving some four hundred millions of vibrations in a second, and violet seven hundred millions of millions, while the wave-lengths of a vibration are reckoned at $\frac{1}{39000}$ of an inch for the red, and $\frac{1}{68000}$ of an inch for the violet. See *London Quarterly Review*, April 1883, p. 22.

is not another nature, but the same as we knew before, and worked on the same principles. In the fields of fresh discovery, we observe the same Divine hand at work, displaying the same plan of government as before. Between the lines of our recently acquired science, we read the existence and attributes of God.

Take, for example, the fertilization of flowers, about which our knowledge has been much improved of late years. The interdependence of plant and animal life affords beautiful illustration of forethought, and wise provision. It is well known that, for the reproduction and perpetuation of flowering plants, it is necessary that the pollen in one flower should be brought into contact with the ovule or seed of another. This is sometimes effected in ways which might seem accidental, as by the action of the wind. But more certainly it is done by Insects. The bee in quest of honey cannot carry off its treasure from one flower to another without a portion of the pollen adhering to its proboscis, to be left on the stigma of another. Thus, while the plants supply insects with food, the service is returned in assisting the former to propagate their species.

Darwin has given most interesting accounts of this method of fertilization, making no scruple at explaining it by contrivance, intention, and purpose. But he seems to assume that the contrivance, intention, and purpose are in nature, not in its supernatural Author. But as contrivance is the effect of mind, and intention is an act of mind, there must be mind as the cause of these ingenious contrivances, and as the subject of these intentions. Unless we adopt the notion of mind

in molecules, with all its indefensible consequences, there is no alternative to the conclusion that the mind which intended, purposed, and contrived was the Divine Mind, by which all nature was constituted and endowed.

The Duke of Argyll has clearly presented the inevitable inferences from Darwin's facts and reasonings. Speaking of Darwin's work on the *Fertilization of Orchids*, he says, "The structure of these flowers is elaborately contrived, so as to secure the certainty and effectiveness of this operation" (transport of the pollen by insects). "The complication and ingenuity of these contrivances almost exceed belief; 'Moth-traps and spring-guns set on these grounds,' might be the motto of the Orchids. There are baits to tempt the nectar-loving Lepidoptera, with rich odours exhaled at night, and lustrous colours to shine by day; there are channels of approach along which they are surely guided, so as to compel them to pass by certain spots; there are adhesive plasters nicely adjusted to fit their probosces, or to catch their brows; there are hair-triggers carefully set in their necessary path, communicating with explosive shells, which project the pollen-stalks with unerring aim upon their bodies. There are, in short, an infinitude of adjustments, . . . all contrived so as to secure the accurate conveyance of the pollen of the one flower to its precise destination in the structure of another. . . . It is curious to observe the language which this most advanced disciple of pure naturalism (Darwin) instinctively uses, when he has to describe the complicated structure of this curious order of plants; 'caution in ascribing intentions to nature' does not seem to occur to him

as possible. Intention is the one thing which he does see, and which, when he does not see, he seeks for diligently until he finds it. . . . 'Contrivance'—'curious contrivance'—'beautiful contrivance'—these are expressions which recur over and over again." The use of similar language is frequent, *e.g.*, "'The Labellum is developed into a long nectary *in order* to attract Lepidoptera, and we shall presently give reasons for suspecting that the nectar is *purposely* so lodged that it can be sucked only slowly, *in order* to give time for the curious chemical quality of the viscid matter setting hard and dry.'" They are to be referred, says the Duke, to "that function and power of Mind which we know as Purpose and Design."¹

Not one step of progress in the direction of rational evidence has Atheistic Materialism made since the days of Epicurus and Lucretius, while every new development of genuine science adds to the accumulated proofs of an Almighty intelligence. Were Dr. Paley living to-day, he might not be able to advance much on the principles of his argument for natural theology; but the fresh fields, won by various branches of science, would multiply the materials of illustration, and greatly enlarge the evidential display of facts. While theology has had to modify some of its subordinate positions as the result of modern discovery, its defences have been strengthened by scientific accessions; and that in spite of the old cry of science *versus* religion. If with the limited stock of knowledge available in his day, King David had reason to be astonished at the insignificance of man compared with God as seen in His heavens, the

¹ *Reign of Law*, pp. 36-39.

work of His fingers, the moon and the stars, which He had ordained, how much more may the wider display unfolded by science wake up our adoring wonder to exclaim, "O Lord our Lord, how excellent is Thy Name in all the earth!"

2. *Evolution.*

The scientific and theological thought of the last few decades has been affected by the question of natural development. Previously a topic of speculation among the few, it was broached before the reading public of this country by the publication of *The Vestiges of the Natural History of Creation*; now known to be the work of Dr. Robert Chambers. From time to time it has acquired fresh interest by the deliverances of the British Association, and by many publications and public addresses *pro et contra*. The theory is now represented by the well-known name of "*Evolution.*" Some have hoped, and others have feared, that its introduction meant the end of all theology; while others have sought to show there was no contradiction between the two; and others, again, have endeavoured to vindicate theology by controverting Evolution. It is certain this much-lauded theory can neither silence, nor subdue nature's clear testimony to the existence of its God.

Briefly stated, the theory is, that commencing with matter in some primordial, probably nebular form (when "the existing world lay, potentially, in the cosmic vapour"), a process of change went on through millions of ages, from the simpler to the more complex, from the inferior to the superior, from one thing to something different (homogeneous to heterogeneous); the living arose from the non-living, the animal from the

vegetable ; and in the "struggle for existence," through long reaches of time, the weaker generally perished, and the stronger survived, gradually varying and improving as a whole, though the individuals of each generation had only their turn of existence. By this process originated vegetable, and out of that animal life, graduated by successive modifications through the stages of mollusks, insects, fishes, birds, reptiles, mammals, finally to man. The form of development resembled that of a tree, branching at successive points, each branch taking its peculiar form, and giving rise to kinds more and more diverse from those produced on other branches. Accordingly man is not in the direct line from the ape, but his cousin of one or more removes, being borne on a different branch.¹ The variations thus accruing were so many and so great as to effect the transmutation of species, new ones growing out of the old ; if indeed the theory does not do away with species altogether, resolving all living things into one kind, of which they are mere varieties.

The modifying influences are chiefly the *medium* or environment in which the living thing is placed, its *need*, and the *habits* thus formed, and as some say (*e.g.*, Bastian) "internal tendency" to differentiation. These influences cause adaptation of its organs to its circumstances. The variations thus acquired are transmitted hereditarily to its progeny ; and so the accumulated improvements of many generations appear in the superior organs and attributes of the last of the line now living. Similarly the nervous sensibility and contractility of vegetables grew into the acuter sensations

¹ See Wilson, *Chapters on Evolution*, pp. 354-360, etc.

of animals, and through innumerable stages reached the intelligence of man, with its seat in the brain.

By the experience of the agreeable results of one kind of action, and the disagreeable results of another, there sprang up among men the distinction between useful and injurious actions; and by the habit of associating approbation with the former, and disapprobation with the latter, there arose the distinction between right and wrong; and thus conscience was created. The constitution and growth of communities, domestic, social, and national, are accounted for on the same principle. According to this theory, one individual, or class of living things may advance, while another may remain stationary, or become retrograde from want of the "need" which provokes effort and adaptation; as in parasites, whose organs are said to diminish or disappear through loss of function. But this qualification of the theory has the appearance of limiting the Evolutionary process, to an extent too large to be described as an exception.

It is held that the substance, basis, or principle of all life is *protoplasm*, a semi-fluid kind of matter, in appearance like the white of an egg, and consisting of the simple elements carbon, hydrogen, oxygen, and nitrogen, with slight traces of sulphur and phosphorus. It is never produced apart from pre-existing protoplasm.

On the principle of Evolution the lungs of air-breathing animals, and ultimately man, are supposed to have been slowly derived from the swim bladder of the fish, human speech from the howling of the brute, the human brain from the irritability of *amæba*, or other lowest form of animalcules. The man, the gorilla, the

rhinoceros, the snail, and the butterfly may be all cousins of different degrees, all having descended from the same common stock ; or, as others think, they may have come from several primordial protoplasmic specks.

"Continuity," as a part of this theory means, that natural law reigns everywhere and always, without possibility of interruption, suspension, or intervention by extra-natural, or supernatural agency.

In accounting for upward modifications, Darwin lays stress on "natural selection," by which the living being is apt to choose from its environment what is best for itself and its offspring ; on perpetual "variation ;" and on "environment," which determines whether a given variation will be beneficial or not, the most fitted to new environments surviving the best. The result is "the survival of the fittest." Mr. H. Spencer points especially to what he calls the "transformation of the homogeneous into the heterogeneous," "change from an incoherent homogeneity to heterogeneity, accompanying the dissipation of motion, and integration of matter ;" that is, its incorporation into the living organism.

Some of these ideas were foreshadowed by Descartes, Leibnitz, and Kant. They were largely extended by Lamarck, and have been elaborated by Darwin and his contemporaries. Many of them, in the hands of such men as Spencer, Huxley, Tyndall, H. C. Bastian, Haeckel, and Wilson, have been moulded into their present shape, and pressed on public attention under the fair name of science. There are, however, considerable shades of difference in the views of Evolutionists. Wallace, for example, ascribes less than Darwin to "natural selection," and supposes super-

natural agency in the formation of man. Dr. H. C. Bastian takes Spencer and Darwin to task for "denying that there existed in organisms any *internal* tendency to progressive differentiation," and for holding that it is "possible that the descendants of simple and little-differentiated organisms could have reproduced their like without any considerable alteration during an unbroken lineal descent, though millions and millions of years must have elapsed since the first Evolution of life upon our planet."¹ Nor would it be difficult to cull passages from Evolutionist literature, in which a writer seems to contradict himself.

In some of its aspects the theory has met with powerful opponents, and received damaging, if not fatal treatment at the hands of Janet, Beale, Mivart, Pasteur, Maxwell, Virchow, Sir William Thompson, and many others. In his Belfast address Professor Tyndall lamented that many "older and honoured chiefs" were "opposed to Evolution in every form."

My object is not to travel over the whole question of Evolution, but to consider its bearing on the Theistic argument already presented. We have to ask, Does the theory, so far as made out by evidence, render a First Cause unnecessary? Does it refute the doctrine of causality? Does it disprove the reality of final causes, or invalidate the Theistic inference therefrom? Does it do away with efficient causation, or its evidence of an Intelligent First Cause? Does it prove matter the origin of all things? Does it prove the order of nature eternal? Does it prove that the First Cause is Finite, or Impersonal? Does it render any of our

¹ *Beginnings of Life*, vol. ii., pp. 587, 588, 599.

foregoing arguments unsound? All these questions may be confidently answered in the negative.

I. *Assuming the truth of the theory in its main features, it does not follow that Theism is false, or its evidence from nature unsound.*

(i.) *The Universe to be accounted for.* The theory recognizes the facts of nature, traces out the reciprocal adjustment of parts, the correlation of forces, the invariability of law, and the necessity of causation. It places us in the midst of a *system*, as admirable in its arrangements and operations, as in the vastness of its forces. But *alone*, it does not account for the universe. It may reasonably protest that it is not its business to look beyond the realm of nature, not even for a cause of nature. But reason cannot stop there. It insists on a cause for the entirety of the universe. So long as man's intuitive propensity is what it is, this demand cannot be suppressed. And if Evolution cannot meet it, Reason must not be interdicted from seeking satisfaction in something above Evolution,—if needs be, in an Intelligent First Cause.¹

Let it be granted that the universe is one immense machine, all its movements taking place by virtue of the laws and forces within itself, without supernatural intervention at any point. What then? We have still to account for the machine, and its forces,

“The temper of our age is such as to lead a large number of thoughtful persons to say, ‘We decline to believe anything which cannot be scientifically proved.’ At this point argument stops. So much the worse for them. Better for a man to know nothing of science than to fall into that morbid intellectualism which mistakes science for the whole of knowledge. To be consistent such a man should distrust his own memory and personal identity, for neither of these can be scientifically proved.”—Dr. Conder, *Basis of Faith*, p. 85.

properties, and laws. Epicureans may say the original atoms tumbled by chance, and after failing perhaps millions of times, at last combined fortuitously into a well-ordered universe. But how came the atoms to have their moving properties, and reciprocal adaptations? And how came they *all* to fall into such harmonious relations as to constitute this wondrous fabric? If St. Paul's Cathedral had been built by a fortuitous tumbling about of materials, without intelligent design or control, it would have been a very small wonder compared with the universe so formed. But there would also have been this all-important difference, that the accidental construction of the cathedral might have been ascribed to the strange operation of known natural forces under known laws, whereas the hypothesis in question gives no cause of the qualities and movements which fortuitously produced the universe. If chaos produced order, what produced chaos—and chaos with such a capability of falling into order?

Too often, in accounting for natural phenomena, *Law* is confounded with *Power*, and *Process* with *Cause*. The universe is not accounted for by showing in what order its parts act upon each other, or one event produces another. The *whole* has to be accounted for. The formation of water from oxygen and hydrogen may be explained by the affinity of the two gases for each other. But the explanation wants explaining. What caused the affinity? As Dr. Calderwood remarks, "That men should consider the discovery of the component parts of certain forms of existence, or of the laws of well-known movements, as a *final* disposal of the demands of intelligence, only shows how little the intellect of inquirers has

been prepared for appreciation of the full demands of reason."¹

By this kind of fallacy Evolution is sometimes supposed to supersede the necessity of proper causation. We are told, "The theory of Evolution, in its largest sense, has shown the theory of Theism to be superfluous in a scientific sense."² "Its largest sense" seems to be that which postulates, that the law of causality shall be excluded from the investigation, except within Atheistic limits, and which assumes that a remote origin, and gradual development might take place without intention, forethought, or any cause external to the things evolved—the very question in dispute. This is certainly a "sense" which many of the most scientific Evolutionists would disown; and this partial exclusion of the psychological principle of causality is an arbitrary restriction to which a seeker of the highest truth will not submit. Accepting all that is ascertained of Evolution, still the universe, with its correlations, contrivances, and harmonies, demands an adequate cause as peremptorily as it would if its operations proceeded without plan, by the direct, immanent energy of its Creator.³

¹ *Science and Religion*, p. 85.

² *Physicus*, p. 73.

³ Comte blames "the childish persistence, so common with our literary men, in the attempt to penetrate to causes when laws are known." In his dogmatic style he declares: "The knowledge of laws henceforth takes the place of the inquiry into causes" (*Catechism*, pp. 41-50). It cannot be so in the working of a free sane mind. To answer the intuitive inquiry for causes, by pointing to law, is to offer a stone for bread. But though Positivism seeks to appropriate Evolution, the latter must not be held responsible for the absurd and futile attempt of Comte's Positivism to extinguish the principle of causality.

(ii.) *The parts to be accounted for.* If Theism be necessary to account for the totality of the universe, it is equally so to account for its innumerable *parts*, considered singly. Proceeding on the theory of Evolution, we find the world abounds in causes, which, not being primary, and having only a derived efficiency from an antecedent cause, we call *second* or intermediate causes. Environment, need, and habit, produce modifications of organs. The entire order of events is made up of causes and their effects. But second causes alone account for nothing satisfactorily. They have themselves to be accounted for. Hence we have to go beyond them to account for the present system of nature. All the causes within the process of Evolution are second causes, and therefore require a cause external to that process. For instance, if so much be due to "natural selection" of the best, *why* do living beings so select? Whence the ability and tendency? To find the answer we have to ascend step by step until we reach a cause sufficient to originate such a gift, which must be the First Cause. M. Janet's question is appropriate, "How came nature to be so inventive?" Something greater than nature must have made it so.

Evolution requires the reign of law. It ascribes all events, with their manifold relations, to the laws of nature. Quoting Darwin, an enthusiastic Evolutionist says, "The ways of all living beings are ordered in conformity with the great system of natural law."¹ But whence the laws? Who imposed them on passive matter? How came they to be so harmonious and

¹ Wilson, p. 79.

effectual? A law is not a substance, or force, but a rule of action—a form of thought according to which force operates. It must therefore be conceived before it can be imposed. The whole network of law implies an intelligent Lawgiver. When we are told that all have “been produced by laws acting around us . . . Growth with Reproduction . . . Variability . . . Ratio of Increase . . . Struggles for Life . . . Natural Selection,” we have to inquire how nature acquired these laws? They must have had a cause anterior to themselves.

Take, for example, the germ of reproduction. So far as human ken can reach, the protoplasmic germ in man cannot be distinguished from that of the dog or fish. Yet each develops, as a Darwinian would admit, into the kind from which it was derived. Why does the canine never develop into a man, or the human into a dog? Can the law which controls these wonderful processes be due to anything less than a wise Lawgiver? It is needless to repeat the argument which shows, that the natural order of things could not originate in mere matter. My present object is to point out that to admit the theory of Evolution, in its essential features, does not logically require us to surrender the Theistic argument from causation.

(iii.) *Evolution does not get rid of final causes.* That final causes are not dispensed with by Evolution is evident. How can it be doubted, for instance, that seeing is an end for which the optic nerve and the construction of the eye are means? It may be answered that the faculty of vision results from the laws and properties inherent in nature. That, however, does not affect the argument; for it is all the same to our question, whether God brings about the effect by

His immediate energy, or by investing nature with properties which shall bring it about. In either case the end is designed beforehand. Again, the mutual adaptation and proclivities of sexes, generative organs, provision for parturition, and for nourishment of the embryo, and new-born infant, are evidently means co-ordinated for the reproduction, and continuance of the human species. But that end must have been conceived before those means were provided. And the same may be predicated of ten thousand manifest ends in nature.

However averse to theological inference some Evolutionists may be, they cannot avoid language which betrays the notion of finality. They are unable to expound the facts of nature without speaking of "adaptation;" of "the reason why" certain organs exist; "manifold contrivances, by which nature seeks" effects; "many different methods whereby this end (fertilization of flowers) is secured;" "an evident intent."¹ It has been observed that some of the leading Evolutionists are decided teleologists while rejecting teleology. Not rarely they employ such language as the following,—"Contingencies are often duly provided for in remarkable ways;" "the weak and primitive are prevented, and perhaps wisely, from cumbering the ground;" "the animal or plant is found to possess certain means for acquiring relations of more or less definite kind with its surroundings;" "nature contrives by such means to effect cross-fertilization;" "the clear plan and method of creation;" "nature's purport in

¹ "As against the implication of final causes it has been suggested that these terms "may possibly be used merely to avoid very unwieldy circumlocutions." Strange, if language must be used which means just the opposite of what is intended; and that in science.

inaugurating such change." The first nervous acts of the *amæba* have a "use and purport;" organs are "co-ordinated so as to work to a common end." There is often the latent consciousness of advantage, or desirableness as an end to be attained. "What advantage would it be" to a lower form, to be more highly organized? "How simply are these facts (certain relations of stamens and pistils) explained on the view of an occasional cross with a distinct individual being, advantageous or indispensable." "Thus from the common ground that cross-fertilization effects the greatest good in nature—namely, the efficient increase of the race—we may find many roads and ways for the recognition of further effects of such action in favouring the operation of the conditions that increase the species by variation and modification."¹ How came "the greatest good in nature" to be an "advantage," for the attainment of which so many arrangements are subservient, unless the idea of the result were previously present to some mind, which devised the arrangements for effecting the result? It is very well in poetry to personify Nature as contriving to accomplish various ends; but in philosophy we are bound to attribute such proceedings to a real and not a figurative personality.

Dr. Wilson² makes the argument of Mr. Spencer his own. "Why under the down-covered body of the moth, and under the hard wing-cases of the beetle, should there be discovered the same number of divisions as in the calcareous framework of the lobster? It cannot be by *chance* that there exist just twenty seg-

¹ Most of these extracts are from Wilson's *Chapters on Evolution*; but similar language is common with other Evolutionists.

² *Ibid.*, p. 152.

ments in all these hundreds of thousands of species. There is no reason to think that it was *necessary*, in the sense that no other number would have made a possible organism. And to say that it is the result of *design*—to say the Creator followed this pattern throughout, merely for the purpose of maintaining the pattern—is to assign a motive which, if avowed by a human being, we should call whimsical. No rational interpretation of this and hosts of like morphological truths can be given, except by the hypothesis of evolution ; and from the hypothesis of evolution they are corollaries.”

This paragraph narrows the matter to a choice between Design and Evolution as the explanation of these resemblances of structure. But the passage confounds two questions. The two explanations set in opposition (Design and Evolution) are not opposites. So far from being antithetical, both may be true. Consequently the adoption of the one does not necessarily involve rejection of the other. Supposing the effect to have been produced by the process of Evolution, it by no means follows that it was not designed. “Why?” may here mean *for what reason?* referring to the final cause ; or it may mean *by what efficient cause?* Mr. Spencer’s argument confounds these two meanings. One refers to the *method*, the other to the reason or *end* of producing the effect. To assign Evolution as the method does not touch the question of the end for which the evolution took place. The end might or might not be to display a varied application of the same principle, or to secure a family likeness in the various contrivances, so disclosing the unity of their origin, or to accomplish some ulterior end not yet apparent to us. But whatever might be the reason or

end, that is quite a different question from the *process* of producing the resemblance. There remains another question, namely, How is the conformity of the productive efficiency to the principle of Evolution to be accounted for? It is no answer to say such is the *law* of that efficiency. The question recurs in a different form, What made it the law? that is to say, What ordained and imposed the law? The question is never answered until we bring in Mind as the cause.

Returning to Mr. Spencer's question, it may be reasonably affirmed that the effect (=the resemblances of their consequences) is so good, and their efficient causes so wisely adapted to produce the effect, that both effect and causes must have been designed; or to put it more strongly, the production of the effects we see in nature by the gradual process of Evolution, is not only *consistent with*, but *requires* the idea of final causes for its explanation. Of course to "call" this solution "whimsical" does not make it so. Mr. Spencer's paraphrase for design is altogether incommensurate, and vitiates his argument. We may hold that the phenomenon is "the result of *design*" without accepting his explanation of design—*i.e.*, "*merely* for the purpose of maintaining the pattern." It might be so; but more probably, uniformity of pattern was with a view to still further designs. The argument from final causes does not require that the reason or object of *every* contrivance shall be at once apparent to us.

The Evolutionist might reasonably contend that absolute perfection may not have been reached in the ends or means of nature; that the eye of man, the human frame, the solar system, or any, the most useful thing in nature, may, in future ages, develop into a

character and function far superior to its present ; and thus the adaptations of nature may be gradually improving. Granted : yet the argument from final causes remains in full strength. Future and higher adaptations cannot lessen, except by comparison, the marks of intention, with which we are familiar. The human eye, as we know it, was evidently constructed for the purpose it answers ; none the less so because it may, in future ages, become a more powerful instrument of vision. Seeing is the final cause of its existence. The idea of constant improvement in the processes of nature and their results, so far from disproving final causes, rather enlarges our view of their range. If, for example, it be admitted that the processes and results of nature, in the future, will far surpass those of the present, then, not instead of, but in addition to the finality manifest in innumerable particulars, the whole system of nature shows itself intentionally constituted in order to produce the advances insisted upon by the Evolutionist. Accepting his view of gradual improvement, that improvement must have been an end to effect which the order of nature was adapted as means. On the assumption, therefore, of continued general advancement, the intelligence of Nature's First Cause must be immeasurably great.

(iv.) *Atheism not logically necessary to Evolution.* The attempts of Atheism to identify itself with the theory of Evolution either as a constituent element or a logical inference are altogether unwarranted. Development of the present admirable order of the world from primordial cosmic vapour, whether true or false, may be easily conceived and believed without logically committing its adherents to the denial of God's existence.

Atheism, though too often a concomitant of Evolutionism, so far as that is scientifically ascertained, is at most but an extraneous appendage. If matter be God, or the ultimate basis of the universe, it cannot be proved to be so by the theory of Evolution. Particular ideas may be associated with the theory by individuals, which, if true, would rob us of faith in God; but those ideas are not essential to the theory. For example, it may be said the universe is all that exists, and that its intrinsic, and eternal properties are underived, and are the primary cause of all things. But that view, besides being a *petitio principii*, is no necessary part of the theory of Evolution. Development of the complex from the simple by natural process does not involve any such view. For aught which the theory implies the present universe may have been designed, created, and evolved by a personal God.

Accordingly some eminent thinkers are consistent Theistic Evolutionists. Their position does not commit them to all that some other Evolutionists may hold, *e.g.* spontaneous generation, transmutation of species, and the materiality of mind. Descartes and Leibnitz initiated speculation in favour of the uninterrupted "continuity" of nature under law, and the same doctrine was emphatically propounded by a President of the British Association a few years ago; yet we have no reason to think any of the three was not a firm believer in the existence of God. Many men of science, like Wallace the naturalist, and Dallinger the biologist, are at once Evolutionists and Christian Theists. A few professedly Christian teachers have gone so far as to maintain that even mind and morals might be allowed to be the product of natural Evolution, without injury

to the Christian faith,—a concession which is more than questionable. It is enough for my present purpose that what is essential to the theory does not logically involve Atheism, but, on the contrary, requires the idea of God for its explanation.

2. Some elements non-essential to the theory of Evolution.

With what is beyond dispute in the theory, tenets are too often associated which have no support in evidence, or at least are conjectural. The principle of continuity pervading nature, the influence of circumstances on the state and powers of the living, the tendency of living beings to adapt themselves to their environment, the improvement, or deterioration of a species from generation to generation, the gradual development of organization, life, and capacity in the individual, the tendency of the strongest to survive, and other causes of modification and ceaseless variation, were truths familiar to observers before the Evolution theory took definite shape and name. So far as it embodies and illustrates these truths its claim to acceptance is unquestionable. But as set forth by some of its advocates, it includes doctrines which lack the impress of truth, and are probably destined to be eliminated from scientific Evolution, as alchemy was from chemistry, and astrology from astronomy.

Taken as a whole, Evolution is as yet fitly designated a *theory*; for it is not yet entitled to rank as established science. To this character corresponds much of the language of its more advanced advocates. In reference to some doctrines which seek to pass with the theory, it is well they should tell us they can but “indicate the direction towards which modern scientific faith is

slowly but surely tending." The solution to themselves "seems to be that which science *tends* to supply." They speak of the "deductions and *suggestions* of Darwin." They "postulate" a "struggle for existence." Instead of evidence, they rely on "its general harmony with scientific thought," and accept it as "probable," and not yet verified by "observation and experiment." They say they "can imagine;" "There is reason to *suspect* that there is but one ultimate form of matter out of which the more complex forms of matter are built up." "By an intellectual necessity," said Professor Tyndall, "I cross the boundary of experimental evidence, and discern in matter the promise and potency of all terrestrial life." In the absence of proof, Darwin says "it may be easily *supposed*." Such faltering language is sometimes mixed up strangely with overweening assertions that Evolution is the only "rational solution" of "the great problem of nature." Among the elements, whose right to a place in the theory of Evolution is not yet clearly established, are the following.

(i.) *Spontaneous generation.* Archibiosis, or spontaneous generation, denotes the natural origination of life *de novo* out of non-living matter. Though held as a separate question by some, it is treated by other Evolutionists as an integrant element of their theory. This doctrine, which is necessary to their doctrine of the descent of man and all living things from a common amorphous origin, remains not only destitute of evidence, but discountenanced by analogy. It is allowed on all sides that there was a time when no life of any kind did, or could exist on our globe, molten as it was by heat. Hence the life now on the earth had a beginning. But how it could begin by merely natural

causes is a problem which the advocates of archibiosis have never been able to solve. No verified instance can be found of life arising, except from something living. The chemical elements of protoplasm can be named; but that it cannot be manufactured, the school of Professors Tyndall and Huxley are among the first to declare. A watch, a loom, or other machine may be made, though no such thing pre-existed. Not so with a thing of life. There is no life except from a living being; no protoplasm without pre-existing protoplasm. How then could life begin in a world where none existed? The just inference is that it did not, and could not begin spontaneously. Evolutionists cannot say how the chasm between the non-living and the living could be bridged. The Theist has no difficulty. It was easy enough, and consistent with the highest conceivable perfection, that the Author of all nature should supernaturally *create* life on the globe, for which it was fitted by antecedent changes. Theism thus gives a far more rational account of the genesis of life than is furnished by that form of Evolution which excludes all supernatural intervention.¹

¹ Dr. H. C. Bastian (*Beginnings of Life*) argues that since living *Bacteria* and monads all perished in water heated to 212° F., and yet new *Bacteria* and monads afterwards appeared in the same water cooled after being raised to 270° F. without communication from without, there was a beginning of life *de novo*. But Roberts, Tyndall, Dallinger, Drysdale, and others exposed the insufficiency of Bastian's experiments, and the sophistry of his arguments. They showed that while living monads (the same as *Bacteria* for the purpose) so perished, the germs or spores would retain their potential vitality in water heated to 300° F. Referring to his own experience with monads, Dr. Dallinger says: "This is one of the monads whose spore will develop after being heated to 300° F., that is to say, 25° higher than the heat endured by Dr. Bastian's infusion. Therefore I contend that this monad arose from its

Were spontaneous generation proved, it would not disprove Theism : it would simply do away with *that* particular reason, which the creation of life affords, for inferring supernatural intervention, and consequently a supernatural Being ; while it would give an additional event (archibiosis) to be accounted for, which nothing could sufficiently account for but an intelligent First Cause. But seeing the question is entirely begged, it is utterly powerless against Theism. And if the whole theory of Evolution must stand or fall with spontaneous generation, there is little probability of its "surviving."

The more moderate Evolutionists argue against this kind of Heterogenesis, on the ground that it makes nature capricious, causing life sometimes by heredity, and sometimes by spontaneous generation, being thus at variance with that principle of stability, in nature's operations, which is a foundation stone of the doctrine of Evolution.

"With the vast area of facts," writes Dr. Dallinger, "that absolutely oppose it (Heterogenesis), as definitely settled as the specific gravity of gold ; and with the crude and undigested 'evidence' brought by its advocates in its favour, we may scarcely anticipate that uncertainty or caprice in vital development, or a new

natural spore, which the heat Dr. Bastian used was not competent to kill" (*Science Lectures for the People*, No. 8, by Dr. W. H. Dallinger, F.R.S., F.R.M.S., pp. 149, 150). Dr. Bastian's contention that the beginning of life *de novo* is analogous to the formation of crystal, will not bear investigation. Crystals are never reproductive. They have nothing corresponding to the functions of a living organism. They have no sensory, or motor properties ; no internal tendency to change ; no course or period of individual existence ; no characteristics which render their formation analogous to the origination of life.

power in 'protoplasm' to disregard its *inherited tendencies*, will be amongst the *facts* that will make the light of human knowledge brighter in the years to come."¹

Another, whose right to speak in the name of science will be readily acknowledged, says, "But let no one imagine that should we ever penetrate this mystery (of life), we shall thereby be enabled to produce, except from life, even the lowest form of life." "If we were to trace the state of affairs back, instead of ten millions, to a hundred millions of years, we should find that (if the earth then existed at all, . . . and if the physical laws which at present hold have been in operation during that hundred million years) then the surface of the earth would undoubtedly have been liquid and at a high white heat, so that it would have been utterly incompatible with the existence of life of any kind such as we can conceive from what we are acquainted with."²

(ii.) *Transmutation of species*. In point of probability, transmutation of species is not so wanting as spontaneous generation. It means that, instead of a section or assemblage of living organisms united by similarity of constitution and function, and kept distinct from the rest by reproduction of its like only, one section or type may, by a long succession of slight variations, develop into another type, and all may have sprung from one or a few primitive forms of life. As held by some Evolutionists, it is not identical with that theory of Heterogenesis which assumes vast leaps from one form of life to quite heterogeneous forms, for which nature shows neither need nor probability. This latter may be dismissed as unsupported by a tittle of evidence. The

¹ *Life Histories and their Lessons*, p. 39.

² Tait, *Recent Advances*, pp. 24-167.

transmutation under notice has something to say for itself, but has not yet earned its title to rank with established science.

That there are endless variations, and no two living beings in all respects alike, modifications in the state and capacities of living things by the influence of circumstances, development of one from another, and of higher degrees of health and power from lower; that the individuals of a species are wonderfully capable of adapting themselves to their environment, and some "adaptive changes" may be permanent; and that the same species may be crossed, so as to produce varieties of breed, as with horses, dogs, pigeons, cabbages, etc., are matters admitting of no dispute. But from all such changes to the creation of one distinct species out of another, by the course of nature, is a tremendous leap of imagination. No wonder that anatomists like Richard Owen and physiologists like Dr. Carpenter stoutly resist its claims to be accounted science. We have no well-ascertained instance of the kind. Experiment points the other way. For where one species is made to engender by another, the offspring is infertile, as in the mule; and artificial "breeds" left to themselves tend to revert to former characteristics. Where a new species seems to be produced by human contrivance, nature left alone refuses to perpetuate it, and declares she will have none of it.

Exponents of the doctrine have found it hard to explain the deterioration, or absence of progress among many lower forms of life. Countless myriads of the simplest and lowest organisms exist, which, on the reasonable assumption of their species having existed from the earliest stages of mundane life, ought

long ere this, if the doctrine be true, to have developed into much higher forms, if not to equality with the human. To say the doctrine "does not necessarily include progressive development" is really to say it holds but partially.

Transmutation is brought in to explain the assumption that all vegetable and animal species have grown out of one stock, like the branches of a tree, "from the monad up to man." But imagination alone can so connect them. Nature does not present the successive variations of type necessary to establish the unbroken relationship. There are immense gaps, which fancy has to fill up in order to eke out the scheme. An advanced Evolutionist acknowledges that it is impossible to trace "this continuity of structure." "The gaps between the included forms are many and wide, and nature, as we observe her processes, does not appear to supply the 'missing link' in the existing order of affairs at least." The same writer supports his confession by the words of Darwin, "'The distinctness of specific forms, and their not being blended together by innumerable transitional links, is a very obvious difficulty.'" ¹ That a few fossils indicate intermediate species, *e.g.*, the *Zenlodon* between the whale and the seal, the *Anaplotherium* between the Ruminants and the swine, the *Palæotherium* between the pig and the rhinoceros, has but little bearing on the question; for it merely shows that these intermediate species once existed, not that they were transmuted out of, or into, other species. The boneless lancelet may come between the vertebrate and the molluscos, without

¹ *Chapters on Evolution*, pp. 144, 145.

belonging to either, nor have we any experience of one type melting into another.

On the analogy of a tree, man is not derived from the ape. The two are extremities of different branches, the point of connection being far lower down towards the common trunk. But in that case, where is the next before man, from which he was derived? The chasm would be wide enough between man and the monkey; how much wider between man and the common ancestor of himself and the monkey? As we must not look to the ape, where must we look for our lineal pedigree? Can nothing be found nearer than the fish, or possibly the lobster? and are we to suppose the intervening species, perhaps thousands in number, are extinct and have left not a trace behind? After developing man at the end of their long series, are we to believe they, with every relic and fragment of them, disappeared, and left him alone intact? And is this to be accepted without evidence in order to meet the exigencies of a theory? This demand on human credulity is not science.

Support for transmutation is sought in the *resemblances*: of organs in different species. The arm of a man, the foreleg of a horse, the wing of a bird, the paddles of a whale, though diverse, bear a general likeness of structure, and to some extent of function, whence it is concluded that they were actually developed from the same stock; which by no means follows. It is quite conceivable that their ancestors were quite as distinct, and as diverse as themselves. Their resemblances suggest a common cause, but one which was capable of perceiving, and designing the resemblances along with the diversities. The many points of likeness

are so skilfully graduated, as to be due to nothing less than an intelligent cause.

This brings us to the true explanation in the *ideal plan* of the universe, which must have been present to the mind of its Author, and according to which His work proceeded. Without a previous ideal, it is impossible to account for the systematic gradation of resemblances and diversities, extending from the highest to the lowest organisms. It is not essential to our argument that I should be able to state *why* such resemblances should have been in the ideal, any more than why there should have been the diversities. Enough that Theism alone finds the sufficient cause.

An analogical argument in support of transmutation of species is attempted from the course of development in the individual. The human germ is a protoplasmic speck. In its embryonic growth it assumes the form of a large head, with a fish-like tail, and passes through several stages, gradually attaining to birth, sensation, external relations, childhood, and youth, ere its organs and life arrive at maturity. So, it is suggested, the species had a simple beginning, perhaps as a speck, then as an animalcule, and thus onward with increasing complexity, until the human organization was reached.¹ Of course this is not evidence, but a suggestion, and a very weak one. Between the development of the individual from its germ and that of the race, or more strictly, of all living beings, the points of difference are so many and so great as to leave nothing in common but the general idea of growth and improvement. In the one case, the stages, or successive states, are all

¹ Wilson, p. 114.

homogeneous, differing only in degree, never aught but human despite the tail-like form ; in the other, the successive states are heterogeneous, now vegetable, then animal, now an animalcule, then a fish, then a bird, again a quadruped, and finally man. In the one case, it is a single line from the germ to the man ; in the other, it is a germ, dividing as it develops, like a tree, into innumerable kinds. To infer the latter from the former deserves only to be regarded as a freak of fancy.

It is contended that transmutation of species is countenanced by the existence of rudimentary and apparently useless organs, such as the pocket attached to man's stomach, the wings of the ostrich, and the penguin, useless for flight, the teeth of ruminants which never cut the gum, and the *ulna* of the horse's foreleg or splint bone. It is supposed these organs have degenerated from want of "need" in the environment. Were the evidence of such deterioration conclusive, that would not be sufficient to prove transmutation of species ; for the species may degenerate without becoming another species.

Again, on the assumption of a plan in the mind of the Creator, there is no difficulty in understanding that He might prefer to proceed according to certain typical ideas admitting of endless diversity, conjoined with similarity, and resulting, under general laws, in rudimentary organs in the species, as well as exceptional abortions in the individual. Our knowledge, moreover, does not warrant us to say such organs are utterly useless in the whole economy of nature, though their utility may not yet be apparent to us.

The same answer may suffice to the suggestion that man had once a tail because in other species the tail is

a prolongation of the spinal column. Whether the appendage be deemed an advantage or not, assuming that the Creator designed to produce one species with and another without it, there was surely no need to first produce it in the human, and then to remove it. The transmutationist has to forget, or deny the Creator's existence before he can see the need of man's having a tail in order to be deprived of it.

But the reality of species is denied. The idea of species has been denounced as an "empty" and "crass superstition" of modern science.¹ Without endorsing these sweeping terms, it must be admitted that the validity of species is losing its hold on some eminent scientists. The known actual variations of living organisms are so many and so gradual, from the lowest to the highest, as to render lines of demarcation between what we have been accustomed to regard as species, to say the least, indistinct. But the point to be kept in view is that the abandonment of the idea of species would not silence, and probably would not weaken the clear testimony of nature to the existence of an Intelligent First Cause. Were we to repudiate all specific distinctions, a multitude of facts would still point direct to God. Nor would abolition of species imply that the higher forms of life had developed naturally out of the lower. It was as easy, and for aught we know as wise, for the Creator to originate each type of living beings separately, and make it reproductive of its own kind, as to educe one kind from another, or all from one.

Our chief consideration here, however, is that, if transmutation of species or development of higher from

¹ Lange, *Hist. Materialism*, vol. iii., p. 27

lower forms of life were established, it would necessitate an Intelligent, Almighty First Cause as plainly as does the old theory of species. The change would be in the creed of science, not of Theism. The evolution of all forms of life from one, or a few, according to invariable law, and in harmony with the entire system of the universe, is impossible without a God of amazing wisdom and power.

(iii.) *Continuity*. Continuity can only be admitted with the proviso that it shall not so far exclude God from His own works, as to render it impossible for Him to intervene. The scientific principle of continuity is perfectly consistent with this proviso. From similar results under similar conditions, we infer the reign of law. But in those *data* there is nothing to warrant the conclusion that the Being whose power made nature, and imposed its laws, could not intervene if He would. Admit the personality of God, and the opposite conclusion must be drawn. However improbable a miracle may be in ordinary circumstances, the continuity which would make it absolutely impossible in all circumstances, has not a shadow of evidence. This point guarded, it is beyond denial that, in conformity with natural law, cause and effect make up the whole course of events.

(iv.) *Protoplasm* may be necessary to every living organism as a *sine quâ non* or basis; but it is not all that is meant by life. For, when death overtakes the organism, the protoplasm is dead. It is more than organization and protoplasm, and more than a "property of matter." It is something additional to matter. The nature of life is still inscrutable.

(v.) *Materiality of mind*, as explained by some Evolutionists, is a mere assumption to make out a theory;

and is confuted by the essential disparity between the properties of matter and those of mind. There is evidently intercommunication between them; but how, the acutest philosophers are unable to conceive. No wonder it is so: the two substances are so essentially unlike that to identify them is impossible. Nor does the theory of Evolution necessitate their being confounded with each other; or resolved into a single substance. Were it established that all material events are evolved by natural processes, it would not thence follow that mind was evolved from matter. No facts yet discovered, and no argument yet constructed, will justify the statement that "whatever mental powers are exhibited by man, or by animals which possess a brain, or nerve centres of any kind, are the direct products of the nerve energy stowed up within the cells of the nerve centres; and as we have seen, protoplasm constitutes the essential *materies* of these cells."¹ If the fate of Evolution depends on the truth of this assertion, it is doomed to fall. Mind can never be resolved into matter.

(vi.) *Morals Evolved*. Not a jot more reasonable is the *moral* philosophy of Materialistic Evolutionists, who resolve conscience into an elaboration and product of the properties of matter. Consciousness bears indubitable witness to the radical difference between right and wrong, to intrinsic moral qualities of actions, and to moral freedom and responsibility, which no mere habit of association can account for. As to think, so also to will, to have remorse, to pass moral judgments, and to have a conscience, require what matter, however

¹ *Chapters on Evolution*, p. 73.

organized and refined, can never supply. To accept this unsubstantiated theory of morals is to do violence both to our intellectual and our moral nature.

Seeing then that the general principles of development by gradual and continual variation are perfectly compatible with intelligent Theistic belief, and with the Theistic arguments based upon nature; that the Atheistic elements sometimes associated with the theory of Evolution are not an essential part of it, but unfounded in, or refuted by evidence; and that the scheme of nature is inexplicable without an Intelligent First Cause, we may conclude, with confidence, that there is nothing in scientific Evolution to silence, or even weaken nature's many-voiced testimony to her Divine origin.

iii. *The Philosophy of the Infinite.*

Emanuel Kant in his *Critique of Pure Reason* endeavoured to show that our ratiocinations lead to conclusions contradictory of each other, and are therefore unreliable as a guide to the knowledge of God. Accordingly he assailed all the usual lines of argument from nature, except the moral, and pronounced them inconclusive. He was inconsistent in excepting the moral argument. For it also is a process of inference. If the teleological proof be inadmissible because its result—the existence of God—is contrary to the result of some other course of reasoning, the same sort of contradiction will invalidate the Theistic proof reasoned from our moral nature.

Kant could not divest himself of the ideas of an Infinite, Intelligent First Cause, as the explanation of the universe. But with him these ideas were “regu-

lative" only, and not "*speculative*," that is to say, they are necessary in the human mind in order to explain phenomena, but we have no right to say they are the attributes of a real existence. The conception of God is but an hypothesis necessary for the explanation of nature. We cannot reconcile Kant's position with his avowed belief in God. Where it might have been expected that knowledge would sustain faith, Kant declared he must "abolish *knowledge* to make room for faith."¹

Schelling and others sought rest from the unsettlement created by Kant in the subterfuge of Pantheism. Resolving the Infinite Being into "the one and all" (τὸ ἓν καὶ πᾶν), they affected to know Him by a kind of rapt vision, or rising into the consciousness of the infinite. They escaped some difficulties by running into greater.

Even Sir William Hamilton, though avowedly antagonistic to Pantheism, did not entirely escape its taint when he adopted the phrase, "the one and all," for the infinite, which really left no room for creation, or finite existence as distinct from the infinite. At any rate, he supplied the germ from which Pantheism might be evolved when he laid down too literally that there is nothing in the effect which was not in the cause, a proposition which in Dean Mansel's putting means that God amounts "to nothing less than the sum of all reality." Differing from Kant in many respects, Hamilton travelled some distance along the same Agnostic path, elaborating the doctrine that the infinite, the absolute, and the unconditioned are to man unknown, and unknowable.

¹ P. xxxv

Dr. Mansel, Hamilton's most distinguished disciple, in his Bampton Lectures (1858), pushed this species of Agnosticism still further against natural theology, and, more consistent than his predecessors, surrendered nearly the whole of the moral argument.

On the other hand, this Hamiltonian philosophy has been combated with vigour and success by such writers as Cousin, M'Cosh, Maurice, Calderwood, and Conder. Cousin, though not free from the influence of Pantheism, rendered good service by vindicating the reality of our knowledge of the infinite. Calderwood hits many blots in the philosophy of Hamilton and Mansel; but in founding his reply on an *intuitive* knowledge of God, he assumes what is neither tenable in itself, nor needful for the purpose. M'Cosh, Janet, and Conder contend for the reality of knowledge in a way which leaves the Theistic arguments from causation clear, and invincible.

It is one of the curiosities of this controversy that Kant, Hamilton, and Mansel resort to Agnosticism in defence of the Christian faith, while their principles of nescience are appropriated by Spencer and others in the service of Agnostic Atheism. Mansel's position was taken in recoil from the alleged consequences of Rationalism. In decrying reason, he seems to assume that the only use to which its friends would apply it is to make it "*supreme*" arbiter in dealing with Divine things. "If reason," he writes, "is to be the supreme Judge of Divine Truths, it will not be sufficient to follow its guidance up to a certain point, and to stop when it is inconvenient to proceed further. There is no logical break in the chain of consequences, from Socinianism to Pantheism, and from Pantheism to Atheism,

and from Atheism to Pyrrhonism ; and Pyrrhonism is but the suicide of reason itself." ¹

Mr. H. Spencer seized on the principle of Hamilton and Mansel as the basis of a much more sceptical kind of Agnosticism, which excludes all proofs of God's handiwork drawn from nature, and separates knowledge from religion. In the inscrutability of the ultimate power of religion and of science, he seeks the "reconciliation" of the two.

The most formal and practical embodiments of Agnostic principles are found in the organized Secularism of Holyoake, and the Positivism of Comte.² They agree with the Christian philosophers just named in denying the knowability of God, without accepting their belief in God. The result is Atheism, practical if not theoretical, negative if not positive. But in both these Atheistic systems, the exclusion of Divine things is quite as much a matter of *will* as intellect. Secularists and Positivists welcome whatever considerations promise to discredit the knowledge and belief of God ; but independently of evidence *pro* or *contra*, the supernatural is ignored, not simply as beyond ascertainment, but as being a question of no great concern to man. Indeed, Comte, will not even allow the question of causation to be inquired into. By this prohibition he seeks to establish his Agnosticism on an ethical basis, rendering investigation into theology a derelict-

¹ *Bampton Lectures*, p. 19.

² Positivism has branched out variously, and gives different reasons for its existence. But that it finds countenance in the philosophy of the unknowable can scarcely be denied. Dr. Paulsen, an Agnostic, replies to Professor Flint by seeking to maintain that Theism is belief, but not knowledge. See Flint's *Anti-Theistic Theories*, p. 506.

tion of duty, so far as duty can have any place in his system. The attempt, however, cannot ultimately succeed, inasmuch as it does violence to our necessary laws of thought, which though partially and temporarily over-ridden, will sooner or later reassert themselves with the irresistible force of nature. Despite all advice to the contrary, the human mind *cannot but* seek for causes of phenomena. Comte's Atheism looks like grim irony in the light of another part of his scheme. The saying of Voltaire, If there were no God, it would be necessary to invent one, finds illustration in the conduct of Comte, who, having banished God from his system, found it needful to substitute an object of worship in the shape of Humanity, or rather an abstract assemblage of all human virtues, objectively represented by a woman.

In *A Candid Examination of Theism* the doctrine of the unknowable is made the basis of a scheme of argumentation designed to prove that neither Theism nor Atheism can be either affirmed or denied. The arguments are feeble enough as it is ; but take away the alleged unknowability of the supernatural appropriated from Hamilton, and the Atheistic fabric will fall to pieces. The writer demolishes Fiske's *Cosmic Theism*, which, accepting Spencer's Agnosticism, offers us for a God, an unknowable, unintelligent, impersonal, causal agency, or power, whose nature is neither matter nor spirit. Why the system should be called Theism rather than Atheism does not appear. But it claims lineal descent from the Agnosticism of Kant.¹

The criterion by which the philosophy of the unknow-

¹ See *Physicus*, p. 129.

able is to be estimated is not so much the extent to which it has impressed itself on the thought of the age, or the number of its disciples, as its intrinsic quality of truth or falsity.

Leading features. The following are characteristics of the position assumed by Sir W. Hamilton and Dean Mansel. Belief in the infinite God is a duty, if not also a psychological necessity. We are "inspired with a belief in the existence of something unconditioned" beyond the sphere of all conceivable reality. "A God understood would be no God at all." Whether God exists, and whether His nature and character are as represented to us, reason can neither affirm nor deny.¹ Our reason, faithfully followed, leads to conclusions mutually contradictory, *e.g.*, a limited infinite, a conditioned absolute, an unchangeable Being changing, a something besides all, an indivisible Being consisting of parts. A direct revelation of the infinite nature of God is impossible. Our knowledge is trustworthy so far as it goes;² but we cannot think the infinite, the absolute or the unconditioned. Finite knowledge of an infinite object is impossible. The co-existence of the infinite and finite is inconceivable. The infinite cannot be conceived as giving birth to the finite. Our conception of the infinite is a mere negation of thought. The conditioned, *i.e.*, the conditionally limited, "is thus the only possible object of knowledge and of positive thought, —thought necessarily supposes condition;" therefore whatever we think is conditioned and limited. Whatever is *related* is limited; consequently a plurality of

¹ Mansel, p. 96.

² *Ibid.*, xvii., xxix., 36, 118, 119.

beings or attributes is contradictory of the infinite. "The last and highest consecration of all true religion must be an altar—'Αγνώστῳ Θεῷ—'To the Unknown and Unknowable God.' " ¹

Sir W. Hamilton presents four opinions of the unconditioned. The first is his own, the second Kant's, the third Schelling's, and the fourth is that of Cousin, viz., "1, The unconditioned is incognizable and inconceivable; its notion being only negative of the conditioned, which last can alone be positively known or conceived. 2, It is not an object of knowledge; but its notion, as a regulative principle of the mind itself, is more than a mere negation of the Conditioned. 3, It is cognizable but not conceivable; it can be known by a sinking back into identity with the Infinito-Absolute, but it is incomprehensible by consciousness and reflection, which are only of the relative and the different. 4, It is cognizable and conceivable by consciousness and reflection, under relation, difference, and plurality." ² The infinite and the absolute are spoken of abstractedly, in order to avoid too familiar reference to the Divine Being; but the whole bearing of the discussion must be understood as applying to real existence and not to mere abstractions.

The principles of Hamilton's Agnosticism apply to philosophy as well as theology. Hamilton's words are Mansel's chosen motto, "No difficulty emerges in theology which had not emerged in philosophy." The ignorance is not that of part of mankind, which has been overcome by the other part, and may by mental

¹ Hamilton, *Discussions*, pp 14, 15.

² *Ibid.*, p. 12.

culture be overcome by all; but a universal necessity of human nature, an ignorance which "exists in relation to the whole human race, as men, bound by the laws of man's thought," "from the cradle to the grave, from the creation to the day of judgment."¹

Bearing of the question. The bearing of this philosophy on Theism is apparent. If it be true, all effort to know God by His works must fail. We have no way of escape from darkness. Ours is the "unknown God." Whatever ideas we form of Him, we can have no certainty of their correspondence to any reality. Even a finite God could only be the creature of fancy. Natural theology is lost. Nor is it easy to see how *belief* in God as infinite can be long retained after its rational supports are relinquished. To Hamilton or Mansel, nothing could have been more repugnant than the Materialistic Atheism which fortifies itself in Agnosticism. But how is it to be logically avoided if God cannot be known or conceived? To fall back on belief without knowledge, if it could in some sort satisfy the believer, can have no fitness to convince the unbeliever. At any rate, Theistic argument is irrelevant and worthless, if to know or conceive of God be an intellectual impossibility.

A noteworthy inconsistency of this philosophy is that, while often referring to the future as intended to supply that knowledge of the Infinite Being which is impossible here, hoping for the state when we shall know as "we are known," it lays down a principle which renders that knowledge as impossible in the future as the present. Mansel especially teaches that

¹ Mansel's *Bampton Lectures*, p. 171.

our ignorance is the necessary result of our being finite ; but if so, as we shall never be infinite, we can never know the Infinite Being.

Definitions. It is important at this stage to define the terms infinite, absolute, and unconditioned. Sir W. Hamilton sets down the last as the genus of which the other two are species—the infinite being the unconditionally unlimited, and the absolute being the unconditionally limited, that is, the finished, perfected, completed ; and so the infinite and absolute are contradictory opposites. He gives another meaning of the absolute as not “opposed to the infinite,” viz., “what is aloof from relation, comparison, limitation, condition, dependence, etc. ;” but it is in the former sense that he chooses “exclusively” to employ the term absolute. In reply, Dr. Calderwood¹ has shown that to be limited is to be conditioned and restricted, which is an imperfection. Consequently the absolute cannot be limited. Moreover, the infinite is without imperfection, or incompleteness. Therefore the infinite is the absolute, and not its contradictory. Each may be predicated of the other—the infinite is absolute, and the absolute is infinite ; and each is unconditioned, that is, without restriction. For the purposes of our inquiry, therefore, the terms may be employed interchangeably, as they generally have been by philosophers.

Dr. Mansel writes, “By the *absolute* is meant that which exists in and by itself, having no necessary relation to any other being. By the *infinite* is meant that which is free from all possible limitation, that than which a greater is inconceivable, and which

¹ See Calderwood, *On The Infinite*, p. 180.

consequently can receive no additional attribute or mode of existence which it had not from all eternity."¹ Omitting the last clause of the second definition, which is but an inference from the definition proper, the two definitions may be accepted as excellent. Following Hamilton, and winning the approval of Mansel, Dr. Calderwood says, "The only legitimate meaning which can be attached to the terms unconditioned and absolute is freedom from all restriction. The absolute is that which, though actually related, is free from all necessary relation as a condition of existence."² Again, "The infinite expresses the entire absence of all limitation, and is applicable to the one Infinite Being in all His attributes." Dean Mansel accepts these definitions.³

It is of great importance to observe the distinction between *relation* and *necessary relation*. The latter implies that its subject is thereby conditioned, restricted, limited. Mere relation has no such implication. To say a thing is related affirms nothing as to whether it is limited or not. Between absoluteness of perfection and relation, there is no necessary contradiction. This distinction neutralizes much of the reasoning of Hamilton and Mansel, which purports to show that knowledge of the infinite and absolute is self-contradictory. Mansel correctly defines the absolute as freedom from *necessary* relation, and then incorrectly argues as if it meant freedom from *all* relation.

It is to be regretted that other definitions less sound than the above are sometimes expressed or assumed.

¹ *Bampton Lectures*, p. 30.

² *The Infinite*, pp. 177, 178.

³ *Bampton Lectures*, p. 200.

For example, the question is argued as if the infinite could refer only to duration or extension, that is, the *quantitative* infinite, overlooking the *qualitative*. If we speak of an Infinite Intelligence, we make no reference to duration, or space, but to quality, or degree of the quality. This is not a mathematical infinite; but infinite nevertheless, inasmuch as it is intelligence without restriction or imperfection. There is no incongruity, or unintelligibility, in speaking of thought as finite or infinite, provided we take the words in a sense corresponding to the nature of the subject. But in reasoning about God as of infinite presence, we must not assume that He is extended like matter, and thus divisible into parts. Whatever the mystery of His omnipresence, He can have no such relation to space as that which belongs to a divisible body; nor does He "occupy" space in the same way. There is no place where He is not fully present. "His centre is everywhere, His circumference nowhere." One may argue about the parts and whole of matter, but not of the Infinite One.

The ruling *question* before us is, *Can we know God as Infinite?*

(1.) It is affirmed that to man the Infinite is *inconceivable*. Inconceivability is not here to be confounded with *unimaginability*, which has reference to an extended *form* pictured or imaged before the mind. Nor must it be confounded with *mystery*, which attaches to every truth, however clear. It is also important to distinguish between mentally conceiving of an object and embracing or comprehending it. Mansel seems to have lost sight of this difference when he concludes that "it is a duty, enjoined by reason itself, to believe in that which we

are unable to comprehend.”¹ Yes, so long as it is “comprehend,” and not apprehend, the proposition may be accepted. But if that be all, the “philosophy of the unconditioned” breaks down; for its essential doctrine is that we cannot *apprehend* the infinite. It tends to obscure this distinction when Hamilton and others speak of thinking the infinite, rather than thinking *of* it. To think of the infinite is to think of something, not everything included therein, just as to think of a million of men or things is not to have direct cognition of every unit at once, or as to think of a grain of sand is not to directly and at once cognize every part into which it is divisible. If to think an object is to cognize or directly think of everything it includes, it is as impossible to think an apple as the infinite Being; for all the atoms of an apple, with all their qualities and relations, are far too numerous to be grasped in detail by one act of the human mind. To think of the Infinite God is to conceive of Him *as* infinite, in contradistinction to the finite.

But in so conceiving of the infinite, we do not regard it as consisting of parts, but as being indivisible as truly as it is unlimited. Hence Hamilton is wide of the mark when he argues as if we began with a point of the infinite, and simply extended our notion to other points indefinitely, which would really be a process of imagination, imagining to ourselves a larger and larger form. Whatever idea in respect of parts or form may tend to attach itself to the proper notion of the infinite, that notion is not itself of a form, or of parts.

(i) Conceivability of the infinite, it is intimated,

¹ *Bampton Lectures*, p. 63.

would logically land us in *Pantheism*, because the infinite must include all that exists; otherwise it is not infinite. Hamilton, who disavowed Pantheism, seems to favour it when he speaks of the infinite as "the one and all." Adopt this definition, and neither Hamilton's philosophy, nor that I am opposing to it, can stand. Pantheism is inevitable. God is everything, and everything is God. But the definition simply begs the whole question. That the infinite is "the one and all" is the proposition which Pantheism has to prove, not the undisputed axiom from which to reason.

In other places the aim of the Hamiltonians seems to be not to favour Pantheism, but to show that if we decline their philosophy, we are logically driven upon the rock of Pantheism. "The metaphysical representation of the Deity, as absolute and infinite, must necessarily . . . amount to nothing less than the sum of all reality."¹ "'What kind of an absolute being is that,' says Hegel, 'which does not contain in itself all that is actual, even evil included?'" We may repudiate the conclusion with indignation; but the reasoning is unassailable!"² So says Dr. Mansel. "The reasoning is unassailable" only if the false Pantheistic definition be allowed as the starting point. To those who reject the definition, Pantheism has no logical root in the conceivability of the infinite.

(ii.) It is further contended that to affirm the conceivability of the infinite involves *consequences mutually contradictory*, that is to say, - such conceivability is contradicted by its logical results.

The law of contradiction is that a thing cannot both

¹ *Bampton Lectures*, p. 30.

² *Ibid.*, pp. 30, 31.

be and not be. Self-contradiction is "the affirming and denying of the same statement."¹ Dr. M'Cosh says it is to affirm and deny the same attribute of the same subject at the same time. Kant is represented by one of his translators as meaning that "a conception is always possible if it is not self-contradictory."² We need not fear to test conceivability of the infinite by this rule. Where is the self-contradiction?

Dr. Mansel says, "I can only know two ideas to be contradictory by the distinct conception of both; and where such a conception is impossible, there is no evidence of contradiction."³ If then Dr. Mansel maintains that the finite is contradictory of the infinite, he must have a "distinct conception" of both, in which case the infinite is no longer inconceivable. If, on the other hand, he has no conception of the infinite, "there is no evidence of contradiction."

We are told, "to think is to condition."⁴ Dr. Calderwood has thrown Hamilton's argument into the syllogistic form, thus: "To think is to condition; the infinite is the unconditioned; therefore the infinite cannot be thought."⁵ The fallacy lies in the major. To have any force the meaning must be, not that to think implies conditions in the *subject* or thinker; but that it imposes conditions, that is, limits or restrictions, on the *object* thought about. But this is by no means the case. A man's thought of the sun, or Uranus, has no effect whatever on that luminary. Our thinking

¹ Jevons, *Principles of Science*, pp. 5—32.

² *Pure Reason* (Bohn's), p. 367.
Bampton Lectures, p. 293.

⁴ Hamilton, *Discussions*, p. 14.

⁵ *The Infinite*, pp. 198—254.

of some Red Indian chief may no more affect him than our thinking of Alfred the Great can add to, or take from the conditions of his life. So to think of the Infinite God implies the conditions under which we think, but no restriction of God Himself. In thought there must be a subject thinking, and an object thought of; but we have good reason for dissenting from the further statement that these two necessarily limit each other. When God, as both subject and object, thinks of Himself, subject and object are both infinite—in fact, the same being: but when man thinks of God, the thought and the thinker are finite; but it does not thence follow that the object of thought is so. The conception is immeasurably inadequate to its object, but it apprehends the object nevertheless.

Again, it is alleged that all *relation is limitation*, and that as all thought is relative, and cannot rise above the relative, it cannot rise to the infinite, which is not relative. The fallacy here is in assuming that the relative is always conditioned because it is so sometimes. The Infinite God is not “the relative” as man is, that is to say, He is not conditioned, yet He is related; and to think of Him as related is no derogation from His infinite excellence. Were He *necessarily* related, it would be a limitation. He would not then be absolute. He may, however, choose to be related as Cause, Ruler, or Proprietor, to the finite; but while that conditions and restricts the finite, it has no such bearing on the Infinite. It brings Him under no restriction of power, intelligence, goodness, or perfection. Whatever glory He had before, He retains after the relation commences. The Infinite Being may be related without being thereby limited, provided the

relation be not necessary, but of His own choice, and determinable at His will.

To think of the Infinite is declared to imply in Him many relations incompatible with infinity.

For example, it is held that the Absolute cannot be conceived as *cause*, inasmuch as that would imply relation to another being, which would be a limitation on Him who caused, and render Him no longer absolute. Cousin goes to the opposite extreme, contending that the Infinite Being could not but cause; thus making causation a necessity, and leaving no way of escape from the dilemma indicated by Hamilton and Mansel, except in Pantheism. It is only needful to compare the assertion that the Absolute cannot be a cause with Mansel's excellent definition. "By the Absolute is meant that which exists in and by itself, having no necessary relation to any other being." The term "necessary" makes all the difference. When the Absolute causes the finite to exist, since it is not done necessarily, there is no loss of absoluteness; therefore the Absolute may be a cause. It is asked, how the Infinite can *become* a cause. I reply, He may be regarded either as *potential*, or as *actual* cause. As potential, all power is in Him. Putting forth power, He becomes actual cause. Yet there is neither loss nor gain to His perfection, no change in Him for better or worse, nothing to affect His infinity. All power, wisdom, and glory remain His as much as ever, while causation may be the means of manifesting His glory.

It is even argued that the Absolute and Infinite cannot be conceived as *without* any possible mode of existence, as that would be a lack of the property of limitation; that is to say, His perfection necessitates

His existing in every possible or conceivable mode, because the absence of any would be the want of something. Thus the lack of finiteness, or of any evil, moral or natural, would be a defect. On this principle, the absence from Him of causation, change, or restriction, would be an imperfection; and such absence, therefore, is impossible to the Infinite. This shows, not the impossibility of the Infinite according to reason, but the absurdity of the principle on which the argument proceeds to such self-contradictory issues.

Whatever would tarnish or diminish the perfection of God is precluded by His infinity and absoluteness. Consequently, His infinity cannot require that all modes of being—evil as well as good—shall be in Him. It is no imperfection that being perfectly just, He cannot act unjustly, or being perfectly benevolent, He cannot act malevolently. Is it a limitation of power that it is not limited? Yes, according to Dr. Mansel's reasoning; but the reasoning which leads to this self-contradiction must be inherently vicious. Dr. Mansel might retort that it results from our mode of reasoning, not his. But in truth, it results from reasoning, on Dr. Mansel's false principle that whatever is related is limited. If, as Dr. Mansel truly says, the Infinite is "that than which a greater is inconceivable," it is clear His infinity cannot include His having finite modes and qualities, which would certainly render Him less than He is, or than our highest conception of Him.

Following Mansel, Mr. H. Spencer says, "To think of the First Cause as totally independent is to think of it as that which exists in the absence of all other existence, seeing that if the presence of any other exist-

ence is necessary, it must partially depend on that other existence, and so cannot be the First Cause.”¹ Existence is here confounded with necessary existence. The first statement, “To think of the First Cause as totally independent is to think of it as that which exists *in the absence of all other existence*,” is utterly baseless. It is rather to think of it as *co-existent* with “other existence.” In the latter clause of the sentence the word “necessary” is sophistically slipped in; for the argument is worthless unless the idea of necessary existence be included. But as it is not in the premisses,—the first clause—it ought not to be in the conclusion—the latter clause. Insert the word necessary in the premisses, and it must be admitted that to think of such First Cause is to think of it as existing in the absence of all other *necessary* existence. But when that is done it does not consequently “partially depend on” any “other existence,” and so it does not follow that “it cannot be the First Cause.” If Mr. Spencer simply meant that an effect is necessary to an *actual* cause, *i.e.*, action must have a result, it is perfectly true; but that does not imply the dependence of the cause upon its effect, and so would not answer Mr. Spencer’s purpose. If, as Cousin held, the effect were *necessary*, then the cause would be so far conditioned by the necessity; but the hypothesis under notice includes no such necessity. In thinking of the First Cause, we think of that which *might* have existed “in the absence of all other existence,” though not as *actual* cause.

Mr. Spencer adds, “The First Cause can have no necessary relation within itself. There can be nothing

¹ *First Principles*, p. 38.

in it which determines change, and yet nothing which prevents change. For if it contains something which imposes such necessities or restraints, this something must be a cause higher than the First Cause, which is absurd." But "this something" being "contained" in the *same* being, it cannot be higher than it, that is, higher than itself. It is "absurd" to say the internal powers of a thing are greater than the whole thing itself. Where "change" is nothing more than freely entering into the relation of actual cause, involving neither loss nor gain to the nature or perfection of the cause, there is no restriction in the being, nor absurdity in our conception of it as absolutely perfect.

Again, it is contended that absoluteness and infinity are merely negative, because *relation* is implied in *plurality* and *distinction*, as, for instance, where more than one being exists, or where the one Infinite Being has more than one attribute.

As to co-existence of the finite, the same kind of refutation holds here as before. Dr. Mansel says two or more infinite attributes would be a plurality of infinities, which is impossible. This is to confound attributes with existence. It is often convenient to individualize, and sometimes to personify the perfections of God, or the several aspects of His one indivisible perfection; but strictly speaking, there is but one Infinite Being—infinite in all respects. Viewed in this light, His omnipresence is not limited by His eternity, nor His infinite power by His infinite knowledge. There is no ontological division of His attributes. Their separation is in our conception only. We speak of them as if they were so many entities, whereas they are the different manifestations of His one simple

entity. To speak of the several attributes as if they were so many different, or parallel mathematical lines, is well enough as a metaphor, but intolerable as metaphysical philosophy.

In the same way Dr. Mansel considers infinity and *personality* as mutually contradictory, because personality implies a plurality of attributes, which is sufficiently met by the answer just given. Divine intelligence and moral excellence—both infinite in the sense applicable to these qualities, that is qualitative rather than quantitative—are in no wise contradictory of each other, or of the simplicity of the Divine nature. The one has no fitness or tendency to limit the other. They are not two beings, but two harmonious qualities of the same Being.

If God's thoughts were as ours—if He, like us, acquired intelligence by observation, reflection, and reasoning, that would amount to a condition or restriction. But the Omniscient cannot be thus dependent. With Him there can be no such thing as *acquiring* knowledge or wisdom. All finite actualities, and all infinite possibilities, in Himself or the universe, are eternally and perfectly known. With us all consciousness consists in a succession of states of consciousness, which is limitation; it cannot be so with Him to whom the darkness is as the light.

Further, we are told we can only conceive of the Infinite One as existing under the conditions of *time* and *space*. In reply to the conclusion of Dr. Mansel that "if *all objects of human thought exist in time*, no such object can be regarded as exhibiting or representing the true nature of an infinite being," Prof. Calderwood shows "(1) That succession in conscious-

ness does not necessarily involve the recognition of transition or mutation in the objects presented." *Our thought* of God's ceaseless existence may be a succession of states of consciousness in us without our thinking of *His existence* as a succession of states. (2) That duration in existence does not necessarily involve succession. (3) That the Infinite Being, as above succession, and yet having an eternal duration, is not beyond the sphere of knowledge and thought, because of the subjection of consciousness to the law of time. In apprehending an object, we are conscious of a succession in time, or passing from one portion of time to a later. But the succession may be only in *our* mode or states of consciousness; and when the existence of an eternal being is the object, we err if we attribute the succession to Him.

As to *space*, God, being spirit and not matter, is not mathematically extended. We may think of a point or portion of space, and multiply it to any extent; but that is a process of imagination in which we are continually enlarging our mental picture, and it is very different from the true conception of infinite space. The latter is a simple notion, to which the notion of parts is unnecessary and alien. Dr. Calderwood was convinced by Hamilton that space and time must be excluded from our idea of the infinite. Others, not without reason, still hold that we have distinct conceptions of infinite time, and infinite space. On either view, the notion of parts co-existent, or successive, is not at all essential to the notion of an infinite being.

By similar arguments it is contended that the infinite

¹ Calderwood, *On The Infinite*, pp. 307, 323.

is impossible of conception, because it is contradictory of *difference* or *distinction*, and, Mr. Spencer adds, of *likeness* also, difference and likeness being inseparable from our conception of the infinite. Virtually these and other objections of the same class are answered already. So far as the ground of objection is in the *relation* of the Infinite Being, such relation is not contradictory of infinity, so far as there is actual limitation, that is, in the finite thinker, and not in the infinite object of thought. It is no limitation of Himself that He is different from all others. Supposing none but He were existent, it is conceivable that He could cognize Himself either without distinction from, or in contradistinction to possible finite beings. It was not necessary for another to exist in order to His knowing Himself.

Having pointed out the unsoundness of the arguments against, let us now turn to those in favour of the conceivability of the infinite.

(iii.) It is implied in the *belief* of the Infinite. Hamilton writes of the doctrine of the Infinite Being, it "is, must, and ought to be believed," and by this reservation hopes to save mankind from the utter loss of true religion; that is, by requiring us to believe as true what, according to our reason, is false. But to do away with thought of the object of belief is to do away with belief itself.¹ Whatever is an object

¹ "Every man is conscious that he can conceive a thousand things of which he believes nothing at all, as a horse with wings, a mountain of gold; but although conception may be without any degree of belief, even the smallest belief cannot be without conception. He that believes must have some conception of what he believes; . . . conception enters as an ingredient in every operation of the mind." "We can neither

of belief must be an object of thought. Truth is the object of belief, and truth is incompatible with a mental state which does not apprehend it. The object of belief may be stated in the form of a proposition, *e.g.*, God exists, the soul of man is immortal, there will be retribution after death, or, Christianity has existed eighteen centuries; or it may be the intuitive belief that an event is never uncaused, or that the whole is greater than its part, in each of which cases there is presented what purports to be a truth, as the object on which faith fixes, a truth from which other truth may be deduced. That every event must have a cause may be an object of belief; but suppose it announced to one who disbelieves it; there is still a conception in the disbeliever's mind of what is meant by the statement. His refusing to trust in it makes the proposition none the less a symbol of an idea cognizable by his intellect.

Nothing is believable that is not thinkable. What kind of belief is that in which there is no thought of the object of belief? Belief is often a moral process; it is always an intellectual one. It may dispense with proof, but it cannot dispense with the mental perception of its object. If our "primary beliefs" in many cases involve other truths deduced from them, they must be themselves truths, and capable of apprehension. To name an object of belief is to name an object of thought. We must think of what we believe. Hence it follows that we cannot believe in God as infinite without thinking of Him as such.

judge of a proposition, nor reason about it, unless we conceive or apprehend it" (Hamilton's Edition of Reid, pp. 360-735).

In reply, it is pleaded that faith and conception are not commensurate—that we may believe more than we can conceive. Dr. Calderwood admits that belief embraces more than knowledge. I am compelled to doubt this. That about which we believe may exceed our utmost stretch of comprehension, but it also equally exceeds our utmost stretch of faith. We believe in God, but not in anything in Him of which we have no thought. We *believe* that there is much in God which we have not thought, and we also *think* the same proposition. We cannot cognize all there is in the Infinite, neither can we believe it all. We can believe that God is infinite, and we can think the same, but can neither believe nor think all that is comprehended by the term infinite.

To suppose the object of faith broader than that of thought is to suppose the object of faith divided into parts, one part being the object of thought, and the whole the object of faith. But if thought be not necessary to faith in the part which is not cognized, it is not necessary to the other part, that is to say, it is necessary to none, and faith is possible without thought, which is contrary to what Dr. Calderwood has already proved. If from the nature of belief cognition is necessary to one part of faith's object, it is, for the same reason, necessary to every part. As is often remarked, we may be able to believe *that* a thing is, without being able to believe *how* it is; but the same remark holds good of thought, and thus cognition keeps pace with belief. Consequently belief of the Infinite implies a conception of the same.

After asserting that the "Absolute is conceived merely by a negation of conceivability," Hamilton adds, "By a

wonderful revelation we are thus, in the very consciousness of our inability to conceive aught above the relative and finite, inspired with a belief in the existence of something unconditioned beyond the sphere of all comprehensible reality." Mr. H. Spencer correctly remarks that "the last of these assertions practically admits what the other denies." He also points out that Mansel falls into the same inconsistency in the words, "We are compelled, by the constitution of our minds, to believe in the existence of an absolute and infinite being—a belief which appears forced upon us, as the complement of our consciousness of the relative and the finite."¹

(iv.) Appealing to *consciousness*, we find conception of the infinite a *psychological* and *unavoidable fact*. When we read that "His understanding is infinite," and that it is unreasonable to "limit the Holy One of Israel;" when we address Him as absolutely perfect, and ascribe to Him alone infinite excellence; when we carry on meditation and discussion respecting His infinite greatness, there must be some conception represented by these words. Many leaders of thought and multitudes of ordinary minds hesitate not to speak of infinity as something of which they think without difficulty. They pretend not to think of *all* it implies, yet they have a distinct and positive notion of God as infinite. How otherwise could Agnostics and their opponents argue the alleged consequences of infinity? To compare the infinite with the finite can only be done by those who have a conception of both. The notion is abroad in the human mind, and refuses to be dislodged.

¹ *First Principles*, p. 92.

Sir W. Hamilton attempts to explain away our conception of the infinite as merely a *negation* of the finite. He says, "They" (the infinite and absolute) "can be conceived only by thinking away from, or abstraction of, those very conditions under which thought itself is realized; consequently the notion of the unconditioned is only *negative*—negative of the conceivable itself."¹ Dean Mansel follows in the same track: "The *Absolute* and the *Infinite* are thus, like the *Inconceivable* and the *Imperceptible*, names indicating, not an object of thought or consciousness at all, but the mere absence of the conditions under which consciousness is possible."² These are but paralogical statements of the thesis, having the form without the power of argument. Grant that thought cannot be realized except on conditions which restrict it to the finite, and of course it is impossible to think of the infinite. But that limitation of thought is precisely the question in dispute. I deny that such are the only conditions of thought.

Our idea of the infinite is said to be a mere negation; that is to say, not a negation or absence of thought, but a positive thought of a negation or nothing. Now the antithesis to a finite being is not an abstraction, but an infinite *being*, and thus understood, our positive idea is by no means of a mere negation. The question is whether God as infinite is something, or nothing to our thought. It cannot be settled etymologically by the negative prefixes, such as *in*-finite, *un*-conditioned, *un*-limited. We adopt these terms to represent antitheses. But they no more imply mere negation than

¹ *Discussions*, p. 13.

² *Bampton Lectures*, p. 63.

do *in*-decent, *in*-human, *un*-natural, *in*-alienable, *un*-changeable, *un*-believing, *in*-subordinate, *un*-answerable, and *im*-pertinent. We are obliged to use such terms as our poverty of language will permit. But we may also indicate the same idea by positive terms, as when we speak of God as the Perfect Being, or of any one of His attributes as perfect according to its kind. His infinity is synonymous with His perfect power, intelligence, or duration. The notion of the finite is the necessary complement to that of the infinite; but that no more proves the infinite a mere negation than it proves the finite to be the same. Our conception of the infinity of God is not only a real conception, but a conception of a reality. The words convey an intelligible meaning of a great and positive excellence, and are not mere symbols of our imbecility to think.

"The very consciousness of our own limitation of thought bears witness," says Mansel, "to the existence of the Unlimited, who is beyond thought. The shadow of the Infinite still broods over the consciousness of the finite."¹ True, He is "beyond thought," as He is incomprehensible; but how can we have this "witness to the existence of the Unlimited" without thinking of the Unlimited? Is "the shadow of the Infinite" brooding over the consciousness of the finite a mere negation? Dean Mansel writes, "The Infinite as such is not an object of human thought." It is "the mere negation of thought."² If so, as all nothings are alike, the negation of the finite world must be just the

¹ *Bampton Lectures*, p. 80.

² *Ibid.*, pp. 223-47.

same as the negation of the extended, or of the material, or of the intelligent, that is, the infinite, the unextended, the unintelligent, are in themselves all the same—each is nothing. To Hamilton's defence on this point that "correlations certainly suggest each other, but correlations may or may not be equally real and positive" (*e.g.*, the finite and the infinite, the divisible and the indivisible), and so the infinite may be nothing but a negation of reality, Mr. H. Spencer answers, "In the antithetical notion of the Unlimited, the consciousness of limits is abolished, but not the consciousness of some kind of being." If all such correlations were nothing else but negation of the positive, "it would clearly follow that negative contradictions could be used interchangeably: the Unlimited might be thought of as antithetical to the divisible, and the indivisible as antithetical to the limited, while the fact that they cannot be so used proves that in consciousness the Unlimited and the Indivisible are qualitatively distinct, and therefore positive or real, since distinction cannot exist between nothings."¹

The argument of Hamilton that we cannot conceive of the infinite because we cannot conceive infinitely is manifestly fallacious. Distinguishing between subject and object of thought, it is clear that thought of the infinite is not the same as infinite thought. The latter is impossible to a finite thinker; but to think of an object as infinite is, in man, a finite act. Here lies one of the chief mistakes of the negative philosophy. It confounds the limitation of our thinking with that of the Infinite Being of whom we think. The infinity of

¹ *First Principles*, p. 90.

God presents to our minds a distinct conception, which they are able to appreciate, on which they can reason, and by which God is to them differentiated from other beings. The question of impotence is settled by matter of fact. The readiness with which we conceive of the infinity of God proves that we are not impotent to do so.

Nay, more; our notion of the infinite is not only of something positive, but the *necessary complement* of our conception of the finite. We cannot think of the finite *as such* without thinking of its correlative, the infinite. We may think of nature without reference to its extent or limits; but no sooner does the idea of its being finite arise, than the antithesis also arises—the notion of infinity. The conception is thus seen to be not only possible, but *unavoidable*. Let the idea once occur to the mind, and it can no more be cast off than the notion of the finite.¹

¹ “We find within ourselves the idea of infinity, *i.e.*, immensity and eternity, impossible, even in imagination, to be removed out of being” (Butler’s *Analogy*, part I., chap. 6).

In answer to Locke’s remark that the idea of infinity is very obscure (though Locke speaks of the infinity of God and of space); Cousin pertinently observes, “But obscure or not obscure, is it in the intelligence? That is the question, and obscure or not obscure, it is your duty as a philosopher, if it is real, to admit, whether you can elucidate it or not.” To Locke’s statement that we have *no positive idea of infinite space*, Cousin replies, “There is no more an idea of succession without the idea of time, than an idea of time without the previous idea of succession, and no more an idea of body without the idea of space, than an idea of space without the previous idea of body, that is, there is no more an idea of the finite without the idea of the infinite, than there is an idea of the infinite without the previous idea of the finite, whence it follows that, in strictness, these ideas suppose each other, and if any one wishes to say it, reciprocally limit each other;

It is admitted by the negative philosophers that we have a "regulative" notion of the infinite, which may or may not correspond to the reality, but which "may be sufficient for our practical guidance,"¹ whence it would appear that even Dr. Mansel feels bound to associate something positive with the word infinite. An idea of "nothing" would not be "sufficient." True, he immediately explains the infinite to be the "indefinite." But even the indefinite is not the same as nothing. But the infinite is *not* the indefinite. The indefinite is subjective, while the infinite is objective to our thought. The indefiniteness is in our thought of a thing; the infinity is in the thing itself. When we widen more and more our conception of an object, the change is in our conception, not in the object; but when we think of a being as infinite, the process of widening our view is no part of that mental act. The infinite is as great at our first conception of it, as at any later stage. Thus the infinite and the indefinite are not identical, either in themselves, or in our conception of them. The "regulative" explanation of our ineradicable notion of the infinite proves altogether unsatisfactory.

(2.) It is also affirmed, with more or less of the same meaning as in the case of conception, that *the Infinite is unknowable*.

In this controversy to know is often used as synony-

consequently the idea of the infinite is no more the negative of that of the finite, than the idea of the finite is the negative of that of the infinite; they are negatives on the same ground, or they are both positive, for they are both simultaneous affirmations, and every affirmation contains a positive idea" (*Hist. Modern Philosophy*, vol. ii., p. 195).

¹ Mansel, *Bampton Lectures*, pp. xx. to xxviii.

mous with conceiving or thinking, that is, to construe to the mind, or cognize an object as existent. Knowledge is said to be "the recognition of objects as existing." A few points remain to be noted in addition to what has been said against inconceivability. "Believe in order to know," and "know in order to believe," are both right in their respective places. The trustworthiness of sensation, and of our laws of thought must be believed in order to our knowing external nature. Much must be taken on trust from our parents, teachers, historians, travellers, and scientific investigators, in order to the extension of our knowledge. On the other hand, what we believe must be presented to the intellect for cognition, though not necessarily for reflection, ere it can be relied on as true; *e.g.*, the intuitive beliefs and the conclusions of science must be cognized in order to be depended upon.

(i.) The negative philosophy makes much of the *relativity of all our knowledge*, that is, there is always the relation of *subject* (knowing) and *object* (known), whence it is unwarrantably inferred that subject and object necessarily condition each other. But to know the infinite no more limits it than to think of it. The perfection of God is not affected for better or worse by our knowledge of it.

It is alleged that we cannot have finite knowledge of an infinite object. But we can. We may "know in part" the Infinite Being, which is very different from knowing *parts* of Him. The former is to have a partial knowledge, correct so far as it goes, of Him as infinite. The finite mind cannot include the Infinite, but it may know that He is infinite. If knowledge must include all that is included in its object, that is, a distinct per-

ception of every ultimate element of which it consists, we can know nothing. For our knowledge of finite things is never complete; *e.g.*, we know the sun as a luminous body of such and such dimensions, but not all that includes as such a body; and so of an atom. Our knowledge of things finite, or infinite, is not unreal because it is inadequate. We cannot believe *that* a thing is, without believing, to some extent, *what* it is; for the terms are unintelligible if no quality of the object be cognized. But to cognize is to know. To believe in God, we must see *what* He is, though we are unable to believe or know *all* that He is.¹

The "relativity of knowledge" is also taken in the sense that no object can be thought of except in relation to another, or in distinction, and, consequently, "that two objects are the smallest number required to constitute consciousness, that a thing is only seen to be what it is by contrast with what it is not." This is anything but unquestionable. The act of comparison or contrast may be a process quickly, and, as matter of fact, perhaps universally following, yet distinct from, and not essential to, the nature of consciousness. "The mind," says Dr. M'Cosh, "commences, we may suppose, with a perception,—which is knowledge,—of an external object, and a consciousness,—which is knowledge,—of

¹ Dr. Calderwood has culled a sufficient number of sentences from the negative philosophers to convict them of inconsistency, *e.g.*, from Hamilton: "'God exists for us as we have faculties capable of *apprehending* His existence.'" From Mansel: "'It is by *consciousness* alone that we know God exists. . . . It is only by *conceiving* Him as a conscious Being that we can stand in any religious relation to Him at all.'" He who knows himself "'will at least be content to *know so much of God's nature* as God Himself has been pleased to reveal'" (Calderwood, *On the Infinite*, p. 294).

self as perceiving the object. Then it remembers, and in doing so has a belief in the object which has been perceived. In all this there is no comparison, but having this, the mind can forthwith institute a comparison, and pronounce a judgment."¹ As turned to account by the school of J. S. Mill, the "relativity of knowledge" necessitates the existence of more than one being from eternity. That consequence is avoided by rejecting the doctrine of relativity as invariably of the *essence* of the most simple perception or thought. Distinction brings the object out into relief, and is habitual in our way of looking at things; but we can easily conceive of a simple direct perception of the quality of an object as taking place, before the perceiving mind begins to compare the object with, or to distinguish it from others.

(ii.) *Knowledge*, like conception, is *necessary to belief*. Belief sometimes denotes opinion, or inclination to regard as true what is not positively known. In the question under discussion, it means certain reliance on something as indubitably true. Faith without apprehension of its object is no faith at all. If the object be not known, no intellectual use can be made of it, no inference drawn from it, no conduct reasonably based upon our belief in it. In no sense could it be treated as a truth; for truth is apprehended by the intellect or knowing faculty. An element of belief is intellectual assent. But how can the intellect assent to that of which it has no consciousness? Faith in a being of which we have no knowledge would be the same as faith in any other unknown being, *i.e.*, faith in

¹ *Exam. Mill's Philosophy*, p. 237.

no certain or definite object. If God be altogether unknowable, faith, though said to be in Him, can no more attach our minds to Him than to any other being of whom we are utterly ignorant. All unknown objects are alike to our consciousness. Clearly faith cannot exist apart from knowledge.

Dr. Mansel says, "We are bound to believe *that* God exists, and to acknowledge Him as our Sustainer and moral Governor, though we are wholly unable to declare *what* He is in His own absolute essence."¹ Then it would appear the object of faith is not that which is unknowable, but that which is known, and ought to be acknowledged; this involves the condemnation of Mansel's theory. But *what* God is to our belief He is known to be. *All* that is implied in His absolute essence is a direct object of neither our knowledge, nor our belief. At the same time we believe, and think, and know *that* He is absolute.

I am unable to agree with Dr. Calderwood's concession that the object of faith is wider than that of knowledge or conception. When we believe that God is infinite, we think and know the same. When we know the cause gives rise to the effect, but not *how* it causes, the same is true of our belief on the subject. We know that God is omnipresent, omniscient, self-existent, and infinite, but not *how* He is so. And as little do we *believe* how He is so. What is out of the reach of thought and knowledge is beyond the compass of belief. Of God as infinite, we may have a conception and knowledge, partial, inadequate, progressive, and our belief in Him as infinite is also partial, inade-

¹ *Bampton Lectures*, p. 112.

quate, and progressive. Faith can only see as far as its own mind sees. We believe God is infinite, and we know the same. It is said we believe in mysteries which our knowledge cannot fathom. Explained, this only means that we perceive and believe truths connected with things of which we are, and perhaps must ever remain ignorant. But that, of which we are utterly ignorant and unconscious, is also beyond the object of our belief. *How* three Divine Persons inhere in one Godhead we neither know nor believe, yet we know and believe *that* three Divine Persons do inhere in the one Godhead. Faith believes what reason cannot *explain*, not what it cannot think or know. By faith in the Divine testimony we may ascertain truths which reason could not otherwise descry, yet all the truth thus gained is known, as well as believed. I venture to think Dr. Calderwood's refutation of the negative philosophy would have been more complete had he taken this ground, instead of denying part of the object of belief as an object of knowledge. For Dr. Mansel's disciples might retort that if part of the object of faith may be unknown, why not another, or a greater part? And why not the whole? A rejoinder of no force as against the view adhered to in the foregoing criticism.

3. The word knowledge is often used to signify, not merely recognition of an object as existing, but the *certainty* thereof on sufficient grounds. It is in this sense that many Agnostics turn Hamilton's philosophy to an Atheistic account. Divine things, say they, cannot be ascertained, because the Infinite and Absolute are inconceivable, and because no *evidence* is available. The philosophers of the Unknowable yield all in this

direction, and seek to retain religion by falling back on a necessary Agnostic belief in the Infinite and Absolute God. Dr. Calderwood and others endeavour to meet this form of scepticism by insisting on an intuitive belief in God. It is better met by showing the negative philosophy unsound, thus cutting the ground from under the feet of modern Agnosticism, and by clearly presenting the witness of nature, especially in causation, to the reality and greatness of its intelligent First Cause. The Comtist, if the negative philosophy be true, may be justified in declining to consider the question of evidence for the existence of an infinite God. But seeing that the philosophy is erroneous, he is, in reason, bound to look into the claims of Theism, with a view to arriving at a just, and practical decision according to the evidence.

4. It is no recommendation of the negative philosophy that it is *fitted to undermine both the faith and fervour of religious devotion*. According to its teaching, God may or may not be what we think Him, however pure our faith. Our best views are "not what God is in Himself, but what He wills that we should think of Him."¹ Knowing this, how can we admire, love, and confide in One whose attributes, for aught we know, may be the opposite of those which command our trust, love, and adoration? What kind of believing is that which is combined with a consciousness that the object of belief may be in all respects opposite to what we believe Him? This associated consciousness must tend to destroy the very foundations of belief. If what God "wills us to think" may not be true, on the same

¹ Mansel, *Bampton Lectures*, p. 84.

principle, our thinking of Him as so willing may not be true, and so on interminably, leaving us destitute of a true thought concerning Him. To believe in what we are aware may be a falsehood about the Supreme Being is bad enough, but to be *necessitated* to believe it is still worse. What sort of religion must that be of which this is the philosophy?

"Our love toward God," says Dr. Mansel,¹ "if it is to be love at all, must not be wholly unlike our love towards our neighbour." Then should He not have a character fitted to be the object of such love, that is, such as we are accustomed to think it—holy, loving, true, wise, and almighty? If these ideas of Him are false, it may be the same as to His supremacy, and even His very existence. This philosophy, though begun by Christian men, and in the behalf of religion, when carried out, really saps the foundations of religion.

5. This philosophy *degrades and discredits human reason* in the sphere of *philosophy* as well as in that of religion. The principles which, if sound, deprive us of God, imply that there can be no such thing as mind distinct from body; no body, no efficient causation, neither noumen, nor phenomenon, neither unity nor plurality, neither moral liberty nor necessity, in fact no philosophy whatever, because every one of these positions leads to contradiction. The doctrine of the Unknowable, says Hamilton,² "can supply not merely the only satisfactory solution, but the only solution at all"; that is, by consigning the inquirer to inevitable

¹ *Bampton Lectures*, 86. The merely "regulative" ideas of Kant, Hamilton, and Mansel are reproduced in different form by Spencer, *First Princ.*, p. 68.

² *Discussions*, p. 632.

ignorance. Bodily perception, says Mansel, "reposes, in its ultimate analysis, upon a mystery no less insoluble than that which envelops the free agency of man in its relation to the Divine omniscience."¹

Evidently *mystery* "insoluble" is here mistaken for contradiction; and all opposing schools of philosophy are gratuitously set down as equally rational, or irrational. Philosophy will, no more than theology, consent to be thus summarily dismissed. "How can these things be?" is an unanswerable question, underlying every clear truth, but no contradiction of the truth itself. How can one thing cause another? How can mind and matter intercommunicate? How can moral freedom co-exist with dependence? How can there be unextended substance? How can the mind intuitively perceive truths? may be unanswerable questions, each involving a fathomless mystery; but they are not contradictions. As Mr. H. Spencer observes,² "we cannot conceive of any explanation profound enough to exclude the question—What is the explanation of that explanation?" But in neither science nor religion does the fact of any unfound explanation necessarily imply a contradiction of what is known. The doctrine of one school that the thinking substance is material, and of another that it is immaterial, are mutually contradictory; but it does not follow that *both* are false, or unknowable.

If the school of Mr. Spencer be right in employing the principles of Hamilton to exclude all theological knowledge, it is bound in consistency to carry them

¹ *Bampton Lectures*, p. 98.

² *First Princ.*, p. 16.

out in the direction of science, to the exclusion of all philosophy respecting nature. What then becomes of the "reconciliation" between religion and science? Instead of resting, one on faith, the other on knowledge, the latter, in its ultimate analysis, rests on neither, for it will not be pretended that it rests on unreasoning, unintelligent faith, and *ex hypothesi* it cannot rest on reason.

Mr. Spencer falls into Mansel's mistake, in assuming that rational argument proves the existence of God, and another line of argument, equally sound, proves the contrary, thence concluding that neither is to be accepted. The two lines are very far from *equally* sound. Indeed, the latter compared with the former is feebleness itself. It may prove the infinite to be incomprehensible, but not a contradiction. The proposition, that there is a Supreme First Cause, rests upon evidence plentiful as the works of nature, appreciable by the common understanding, and adequate to produce full conviction. Sound reason never conducts to the contradictory of this proposition.

Mr. Spencer's "reconciliation" of religion and science must be rejected as needless. He writes, "Of all antagonisms of belief, the oldest, the widest, the most profound, and the most important, is that between religion and science."¹ This may pass, if the reference be to whatever may have borne the *name* of religion or science. Between *true* religion and *true* science there is no antagonism. They are but twin branches of truth. In proportion as religion and science, so called, are delivered from what is erroneous, their essential agreement is unfolded to view. The verities

¹ *First Princ.*, p. 11.

of religion are matters of evidence and knowledge, as well as of faith, and stand in no contradictory relation to the accurate deductions of reason. Our knowledge, as we have seen, is dependent on faith in first principles and testimony, while, but for the inlets of knowledge, faith would be impossible. He concludes that "though the Absolute cannot in any manner or degree be known, in the strict sense of knowing, yet we find that its positive existence is a necessary datum of consciousness; that, so long as consciousness continues, we cannot for an instant rid it of this datum; and that thus the belief which this datum constitutes has a higher warrant than any other whatever. Here then is that basis of agreement we set out to seek."¹ This conclusion "reconciles religion with science."

This is a variation from Hamilton and Mansel. But the positive existence of the Absolute, as a necessary datum of consciousness, needs to be reconciled with our inability to know it "in any manner or degree." What is this again but "belief" in an unknown and unknowable God? But while Hamilton and Mansel allow to faith an infinite, personal God, Mr. Spencer only affords an "inscrutable power," the "Ultimate Cause," common to science and religion, which may, or may not be a personal being, and which remains to us "the Unknowable."² The ultimate truth common to religion and science, and that by which they are to be reconciled, we are told, is "that the Power which the universe manifests to us is utterly in-

¹ *First Princ.*, pp. 98, 99.

² Mr. Spencer has recently told us the more advanced intelligence of the future will resolve God into an infinite and eternal energy (*Nineteenth Cent.*, Jan., 1884.)

scrutable."¹ It is more than difficult to see how likeness in *this* respect can harmonize religion and science, if, as is alleged, the conclusions of science contradict the doctrines of religion. The only way in which this inscrutability bears on the question is by reminding us that *mystery* underlies all our knowledge. But if science and religion are contradictory opposites, surely the inscrutability of the causal Power in both does not remove the contradiction, or effect any reconciliation. Indeed, the contradiction is imaginary, and "reconciliation" needless.

The religion offered to us by this "reconciliation" is worthless. How long would rational beings retain a religion confessedly devoid of a rational basis, and whose credentials made no appeal to their understanding? Scientists may propose, but Theists can never accept a "reconciliation" which requires religion to deny its own reasonableness, and to continue to exist by the forbearance of its reputed enemy. In the Spencerian, as in the Hamiltonian form of this philosophy, we are invited, and commanded to believe in a power which may be what we take it for, or the direct opposite. Carried out, the system reduces religion to a merely subjective human state, with no certainty of any corresponding objective reality, a worship with no assurance of a God worthy of the name, a stage below that of the groping Athenians who erected an altar to the Unknown God.

Oddly enough, the faculties by which the conclusions of reason are thus discredited are those of reason itself. By means of reason the negative philosophy

¹ *First Princ.*, p. 46.

seeks to prove that reason is not to be trusted when it conducts us to a positive philosophy, or theology. It is only to be used in the suicidal process of proving that its conclusions are self-contradictory, and therefore to be avoided. But if, as its exponents allow, the philosophy of the Unknowable also leads to conclusions diametrically opposed to those of other philosophies, why is it to remain any more than they? For example, it requires us to believe that God is infinite. But infinity is alleged to be contrary to reason. Therefore the philosophy which commands us to believe in the infinite is condemned by its own rule. If others are to be rejected, because they involve "insolubilities," why not, for the same reason, reject this negative philosophy, and that prior to its destruction of all other philosophies?

Assuming the truth of this philosophy, to accept the Infinite and Absolute Being by faith, along with a merely "regulative" conception of His nature and character, and so retain the blessings of religion, is not the *only* possible course. The Comtist, with some show of reason, may say, "I accept the negation of Hamilton and Mansel, but will have none of their injunction to believe what I cannot think or know. Since theology is rationally unknowable and self-contradictory, I betake myself to the positive, present realities of life, with which my physical perceptions make me familiar, and in which my interests are certain and immediate." The Hamiltonian has no defence against the Materialism of the Positivist.

In relation to man's duties and interests, it is needful to reassert the dignity and value of *reason*. Not that it is sufficient of itself to educe from nature all we need to know; nor that it is infallible within its own sphere; but

though injured through association with moral evil, it is the natural faculty by which it becomes us to ascend from ignorance to knowledge, respecting the sublime realities of things Divine in their relation to the present and the future. This faculty gone, poor as it is, the ladder is thrown down by which we struggle, step by step, out of darkness into light. It is not itself the staple of the truth, but our instrument for seeking, inferring, comparing, testing, and accumulating the truth. Nor does it exceed its province when, from nature, it rises to the supernatural. The negative philosophy, though propounded by thinkers of the highest mental calibre and moral purpose, and appropriated by Atheistic Materialism, has signally failed to supersede, or overturn the convincing evidence, furnished by causation, of the existence of a Supreme Personal God. "The abnegation of reason," says Bishop Lightfoot, "is not the evidence of faith, but the confession of despair. Reason and reverence are natural allies, though untoward circumstances may sometimes interpose, and divorce them."

4. *Connection of natural effects with their First Cause.*

Among those who regard God as the First Cause of all things, opinions have varied, and sometimes conflicted, in reference to the *directness* or *indirectness* of His connection with natural effects. Did He, at the outset, endow the created Cosmos with such qualities as would secure all its movements and results, according to His plan and purpose for all time? Has He given it such inherent forces, and directive tendencies, as, without extra agency, produce all its changes with that harmony and continuity, which enable us to infer, and formulate the *laws* of nature? Does the course of

nature, after the constitutive act of its Creator, proceed by its own properties, uninfluenced by anything external to itself? or does He either occasionally, or continuously interfere to compel it to fulfil His designs? or are its existence and operations continued by the direct action of God, leaving neither room, nor need for self-action in the creature? or is there a harmonious co-operation of the First Cause and second causes—of the supernatural and the natural—the immediate and the mediate? Each of these questions has, from one or another, received an affirmative answer. The two extremes are, that theory which excludes all direct, Divine energy from the operations of nature, and that which excludes all second causes.

It must be admitted that the question belongs, in great measure, to the region of speculation. The *modus operandi* of God's ways is not laid open to our view. We may trace an effect to its cause, and yet find out nothing of the *nexus* between the two. The mode in which Divine power acts on created substance may be inscrutable to us. It is permitted to us, however, to balance probabilities, and forecast the inadmissible consequences of this theory or that, and thus arrive at conclusions consistent with, if not implied in, truths already known. From among these diverse theories, we may prefer that which appears most reasonable. But our chief concern is to show that whichever of these theories be true, it does not invalidate the etiological evidence of Theism, and also, in the light of the foregoing arguments, that a supernatural Being is the only *satisfactory* First Cause.

(I) *Divine Sustenance.* The theory which seems most consistent with all we know of God and nature is,

that which supposes the Creator to have constituted the world with certain qualities, attributes, or tendencies, by which one part has a causal influence on another, and one state or combination of parts produces another, according to what we call laws of nature, the result being the co-ordination and succession of events, which we call the operations of nature. At the same time, all nature is pervaded by the living presence of God, sustaining the being and operations of the world He has made and governs, retaining a supreme control which may at any point supersede, or vary the usual course of natural causation. Ordinarily He neither sets aside the causal qualities of nature, nor leaves them to themselves.¹ This is the reconciliation, if any were needed, of the primary with second causes. God is immanent in natural causation, as truly and necessarily as in natural being, in the operations as in the existence of matter, or mind. In this sense "God is everywhere every moment, energizing in nature."² "He made the causes, and both imparted to them and sustained in them their efficacy."³

Should it be asked *how* His power is active in the action of natural causes, we can no more tell than we can how His power brought nature into being, or how He, at any time, may act immediately on created nature. And it is equally true that we cannot say or conceive how any second cause acts immediately on its object. One body, for instance, gravitates to another; but who can tell us *how* the force of gravita-

¹ See M'Cosh, *On the Divine Government*, book ii., chap. i., sect. 5.

² Row, *Bampton Lectures*, p. 71.

³ Bishop Cotterill, *Does Science aid Faith?* p. 71, from Augustine.

tion becomes motion? We note the fact, and draw the inference that somehow one body is moved towards another, in proportion to their relative density, and distance; but we know nothing of how the force acts between the two. How causal power or efficiency passes to the effect is apparently an insoluble mystery.

The energy of the Almighty would seem to be as necessary to *sustain* as to commence the existence of the universe, and as necessary to sustain the causal *action* of created things as their existence. This view recognizes the all-pervading, active presence of God in His works, in opposition to every theory which would reduce Him to the position of an inert spectator. It also consists with our experience of causal power in the creature, as when we voluntarily exert ourselves to produce some effect.

The theory also agrees with the imperfect character of second causes. They are essentially different from the First. They cannot, like it, be self-sufficient, or self-supporting. Their efficiency is limited, derivative, instrumental, dependent, passively obeying the direction of the First. The First is original, infinite, free, absolute, commanding. They without it are nothing. It without them is still all in all. The First Cause cannot produce a second equal to itself, as there cannot be two infinite, or independent beings. Second causes depend on the First, both for their beginning and their continuance. Hence the law of causality is never satisfied with second causes alone.

On this theory, the Theistic argument from causation remains clear, and strong. The sufficient cause, demanded by the laws of thought for observed facts, appears in Him who creates and sustains all things,—

who constitutes mind and matter with an *aptitude* to *produce* certain changes, and upholds their causal working. He who constituted the earth to bring forth grass, the herb to yield seed, and the fruit tree to yield fruit after his kind, "is above all, and through all, and in you all." In Him who maketh the winds His messengers, and flaming fire His minister, "we live, and move, and have our being."

(2) *All causation by direct energy of God.* Another theory resolves all the causal energy of nature into the *direct energy of God*. It holds that He is not only immanent and active everywhere, but that there is no causal energy besides His; all action or change being the immediate exercise of His power. If a stone fall, or a vapour rise, or a fish swim, or a spirit think, or will, it does so by His direct energy, or rather His energy does it, while the material, or spiritual subject is entirely passive. The order of events is what it is, because He has made it a law or rule, according to which He will work. As an image in a mirror is continued by a continual supply of similar rays of light, so it is said the world in all its parts is upheld by "a continued succession of acts of the Divine will, and these not differing from that which at first caused the world to spring into existence."¹ Bishop Butler repeatedly alludes to this theory, not to accept or reject it, but to intimate that whether true or false, it does not affect the evidences of natural religion.²

¹ So illustrated by Jon. Edwards; see M'Cosh, *Divine Government*, p. 148.

² "For when men find themselves necessitated to confess an Author of nature, or that God is the natural Governor of

It is idle to charge this theory with representing God in an undignified aspect, as if it were beneath His greatness to attend to all the minutiae of the universe. The great and the little are alike under His control. It would be a limitation, and derogation, if He were unable to watch and rule all things great or small. Human rulers relegate details to subordinates, because of inability to attend to them personally. The infinite Lord need not entrust to others the least of His affairs. His omnipresent all-sufficiency is a mark, not of defect, but Divine dignity and magnanimity.

Neither is there any cogency in the objection that, on this theory, God is always working miracles, or that every event is then a miracle. The essence of a miracle is not in its being done by the immediate energy of God, but in its *exceptionality* to His ordinary course of working, whether that be direct, or indirect. If the distinctive peculiarity were in the mode of His acting, it would be much less easy for us to distinguish a miracle, than it now is by the special manifestation of Divine energy as a striking exception to the ordinary course of nature.

It is an objectionable feature of the theory that it virtually *excludes all second* causes. There cannot be

the world, they must not deny this again because His government is uniform; they must not deny that He does things at all because He does them constantly, because the effects of His acting are permanent, whether His acting be so or not, though there is no reason to think it is not" (*Analogy*, part i. chap. ii.). Again, "whether the pleasure or pain, which thus follows upon our behaviour, be owing to the Author of nature's acting upon us every moment which we feel it, or to His having at once contrived and executed His own part in the plan of the world, makes no alteration as to the matter before us" (*Ibid.*).

even derivative efficiency in natural causes, if everything be effected solely by the direct efficiency of God. Indeed, they are not then causes in the proper sense, but antecedents only. In that case the seed, earth, moisture, and warmth are no more the efficient cause of vegetation than night is of day. There is then no efficiency except in God. But our experience testifies the contrary. In voluntarily producing movements of our bodies, and through them, in the external world, we are conscious of exerting efficient force. Are we to suppose the direct energy of God gives us this consciousness of causing effects when we do no such thing? Can any reason be assigned for the illusion? And if the deception were for some good end, how strange that it should be found out to be an illusion, the end being thereby frustrated.

Dr. M'Cosh, though not venturing to adopt the theory, suggests a consideration in its favour: "Had God not seen fit to proceed by general laws in the government of the world, it would have been acknowledged that every separate event required a separate operation of the Divine will. And why, it may be asked, when God sees fit, for beneficent reasons, to act otherwise, should it ever be supposed that such Divine agency is not equally needed?"¹ This argument goes to show that the method in question was possible, and not entirely destitute of antecedent probability. But if we might understand by "operation of the Divine will" what I have already referred to as constant, immediate *sustenance* of every part of creation and its causal operations, this argument would be quite consistent with the theory I have first named and preferred. Either with, or without general laws, such

¹ *Divine Government*, p. 148.

Divine agency may be "needed," yet not so as to supersede, or preclude the derivative efficiency of second causes. Granting all Dr. M'Cosh argues for, it does not follow that nature may not be endowed with such efficient causes as bring about the ordinary course of events.¹

Assuming, however, the truth of this theory, the Theistic argument from nature remains firm. The world and its manifold events are still as wonderful as before, in their magnitude, unity, harmony, co-adaptation, and pre-adaptation. The signs of supreme power, wisdom, and benevolence display themselves with undiminished beauty and glory, and require an adequate cause to account for them, which cannot be found in aught less than an omnipotent, personal God. The elimination of second causes from nature would in no degree lessen the necessity for a First.

(3) *Plastic Nature*. Ralph Cudworth, the most distinguished of the Cambridge Platonists, in his elaborate refutation of Atheism, *The Intellectual System of the Universe*, supporting his position by quotations from Plato, Aristotle, and other ancient philosophers, along with much argumentation of his own, advocated a theory of *plastic nature*, or plastic life in nature, "a certain lower life than the animal, which acts regularly and artificially, according to the direction of mind and

¹ "It seems neither decorous in respect of God, nor congruous to reason, that He should *αὐτουργεῖν ἅπαντα*, do all things Himself immediately and miraculously, nature being quite superseded and made to signify nothing. The same is further confuted by the slow and gradual process of things in nature, as also by those errors and bumbles that are committed when the matter proves inept and contumacious, arguing the agent not to be irresistible" (Cudworth, *Intellectual System*, vol. i. p. 382). On the question of miracles see paragraph *supra*, p. 236.

understanding, reason and wisdom, for ends, or in order to good, though itself do not know the reason of what it does, nor is master of that wisdom according to which it acts, but only a servant to do it and drudging executioner of the same, . . . essentially depending on a perfect intellect." It is presided over by a higher Providence, which "doth often supply the defects of it, and sometimes overrule it, forasmuch as this plastic nature cannot act electively, nor with discretion." It is a formative energy which God has imparted to nature, and by which natural effects are produced. If the architect could impart his ideas of a house to the materials of which it was to be built, so that they might arrange themselves into a house, or if the musician could endow the strings, or other musical instruments, with the music which is in his mind, so that they would of their own operations make the music, the qualities so imparted would be something like the plastic nature, or formative energy, with which God is said to have endowed passive matter. The gift thus bestowed gives rise to the orderly course of nature, and accomplishes the wise ends designed by the Creator. It is a kind of "Divine art embodied," in which God puts into created substance that which unconsciously produces what He designs.

But this theory by no means excludes from the world the constant presence and support of its Creator. The plastic life "depends immediately upon the Deity itself." It is "essentially secondary, derivative, and dependent," the "instrument or manuary opificer of a perfect mind."¹ Seeing then that, on the one hand, it

¹ *Intellectual System*, vol. i., pp. 370, 322, 369, 371, 373, 386, 356.

implies an endowment of nature as the cause of its changes, and on the other hand, is immediately dependent on the Deity, the theory is so far at one with that we first considered.

Exception might be taken to Cudworth's calling the plastic life "incorporeal," not meaning that it is either immaterial substance, or property. What then can it be but matter, or a property of matter? If it be "incorporeal" because it is not essential to matter, but a quality superadded to it, it must still be a quality of matter, whether essential or not. Whatever is the attribute of body is corporeal.

Unless we may interpret the words figuratively, which the context will scarcely allow, objection may be taken to the description of this formative energy as a "*life*," though "the last and lowest of all lives;" or inferior sort of "soul," "though devoid of animal consciousness," as well as of intention, discretion, perception, and cogitation. This investment of plastic nature with incorporeal life, distinct from the substance of nature, is neither necessary, nor helpful to Cudworth's Theistic argumentation.

Very emphatically, however, and on several grounds, does Cudworth repudiate Hylozoism or Stratonism, which attributes a low degree of life or mind, or, as Professor Clifford calls it, "mind stuff," to every particle of matter, as the cause of material movement. He complains that the Hylozoists "pervert" and "abuse" the notion of plastic life "to make a certain spurious counterfeit God Almighty of it." He also objects that they derive the higher forms of life from this lowest, and senseless. They ascribe mind and understanding to it, whereas he makes it but "a faint and shadowy

imitation of mind and understanding." In any case the plastic life and effects could not be accounted for without the Intelligent First Cause.

(4) *Pre-established Harmony*. Leibnitz, while influenced by Cudworth, originated a theory of his own under the name of "*pre-established harmony*." This is not the harmony arising from an all-comprehensive plan, enforced by the established interdependence of the parts, and apparent in the beautiful correlations and proceedings of all nature. In the view of Leibnitz, the whole mental and moral creation consists of an infinitude of monads, or unextended points, each having some degree of active, and perceptive power. Each monad was at first endowed, by the Creator, with the qualities and potencies which produce, and determine all its subsequent changes to eternity. The human soul is a monad of a "dominant" or superior kind. The human body consists of innumerable monads. As each monad produces from within itself all its changes, there is no such thing as interaction between one and another. One does not perceive another because that other exists, but because the percipient is constituted to be at the time as if an external object were in sight. As every event of each monad is determined by what in it preceded, and as the inherent qualities of each monad produce the changes for which it was originally constituted, all events take place by a kind of necessity, the doctrine of which is called "Determinism." Thus evil was necessary, and the universe is that of the Optimist.

But as there is no interaction between any two monads, the question arises, How comes it to pass that minds, with their bodies, and the infinity of monads of

which the world consists, act together with such admirable harmony? In reply it is laid down that the Infinite Creator, foreseeing the infinite possibilities and conditions of all monads, at the outset constituted, and endowed each in such wise that its mode of action should, at any and every stage, harmonize with its surroundings. All states and stages were thus provided for, somewhat as a number of clocks might be made to keep the same time without dependence on each other. For example, my mind just now wills to move my arm; and my arm moves, not because my will acts upon my arm, or my brain upon the muscles of my arm, but because all were so made that, at this instant, my mind should be in the state called willing to move my arm, and the muscles and bones of the arm should be in the state of moving, and each monad should, independently of all others, be in such state that altogether they should make up what I regard as a voluntary moving of my arm.

It is not within the scope of this treatise to point out the objections to this theory; otherwise much might be said of the moral freedom which its determinism virtually destroys; of the absurdity of an infinity of monads and infinite series involved in its principle of "continuity"; of its contradiction of final causes, and other vulnerable points. Enough that its peculiar elements are altogether hypothetical. Being a contrivance of imagination, rather than of reason, it is not surprising that it has failed to win for itself a lasting home in the philosophic world. Sir W. Hamilton affirmed it to be matter of dispute whether Leibnitz were serious in propounding his theory. But if it were proved true, we should as much as ever require a First Cause. In fact, this theory of God's connection

with natural effects was broached in the behalf of Theism; and if it were sound, nothing less than the existence of an infinite God could account for the constitution and course of nature.

(5) *Occasionalism*. *René Descartes* and his followers, in order to solve the difficulty of intercommunication between matter and mind, devised the theory, that there is really no interaction between them, but when one appears to produce an effect on the other, it is the direct energy of God, producing the effect at a moment corresponding to what we suppose to be the action of the other as cause. For example, when the mind wills its body to speak, the immediate action of God on the vocal organs produces the speech, but the mind, or will, exerts no influence on those organs. Because God thus acts at the precise moment when there is occasion, the theory is named "*occasional causes*," or "*occasionalism*." What we call causes are but occasions for God's direct action. In this respect, the theory resembles the second already considered.

But along with this make-shift to meet the case of mind in relation to body, it was held that physical effects came of physical causes, and that animals and other complex creatures were but *automata*, possessed of emotional but not reasoning faculties, or as some of the school held, possessed of neither. Descartes' remark, that his theory of vortices was a romance, has been frequently extended, by others, to other parts of his philosophy. But this theory is not at all antagonistic to Theism. Nay, nothing is more necessary to the hypothesis than the agency of the First Cause. Descartes' reliance on efficient, and neglect of final causes, while not disproving the value of the latter,

shows how necessarily nature, in his system, depended on God.

(6) *Mechanical Theory*. The *merely mechanical* or *automatic* theory supposes the universe to be a sort of self-acting machine, consisting of substance, with its forces and laws, and operating continually by virtue of its own inherent character, unaffected by any direct agency external to itself. This view may be associated with *Theism*, *Pantheism*, or *Atheistic Materialism*. With the two latter, the question is, not the kind of connection which the events of the world have with the supernatural First Cause, but really whether there be any such cause.

(i.) In its *Theistic* form it means that God as First Cause created, and endowed the world in such wise that, like a clock wound up and set a-going, its operations proceed of themselves, either for a long period, or for ever. Obviously this hypothesis, as much as any other, necessitates a First Cause. For, though the huge machine may work of itself, it could neither create, nor endow itself; nor could it begin its own movements. It owes all to the First Cause. This was generally the view of the English Deists.

It is a great weakness of this theory that it represents the Creator as *standing by inactive*, watching, it may be, but never directly influencing the world. Every moment, from the date of creation, widens the distance between Him and His work. As time rolls on He is more and more remote from the act of creation, through which alone He has any connection with the present existence and order of things.

A still more fatal objection is that it makes *the creature independent of the Creator*, seeing He has

given to it such properties that it can do without Him. He has made it self-existent ; for what exists without dependence on any other has the entire support of its being within itself, whatever its dependence at the outset. It is equally independent for its motion, and all its activities ; for, though indebted for all at the beginning to its Maker, it can thenceforth exist, and act independently of Him. Were He to cease to be, it would not on that account lose its being, since it has in itself the sufficient cause of its continued existence and operations.

Hardly less serious is the objection that the theory rests on a *false analogy*. The world is much more than a machine, and God is to it much more than a mechanist. Man, having constructed his machine, may leave it to work by laws and forces, not depending on him, nor derived from him, but simply appropriated by him : God cannot so leave His work ; for there are no laws or forces but from Him. The one merely arranges pre-existing materials, so as to direct the inherent forces of nature in a particular way. God, in constituting nature itself, had no anterior natural forces to rely on. He had both to construct, and to provide the forces and laws, whereas the human mechanist has but to adapt and utilize forces and laws already existing. The very machine which he makes, moves by forces, and according to laws, which another, and not he, supplies. He can set his machine a-going, and stand by inactive, only because God sustains the energy by which it moves. The man-made machine acts by the same forces and laws as does the whole world. In fact, it is merely a modification, not a creation, of forces already at hand. The human will derives all its materials and motion

from the established universe, of which it is itself a part. But God had to provide all the materials, all the forces, and all the laws.

The analogy of a machine is seen still further to fail, as we recollect that part of the universe consists of *animated* and *thinking* beings. Man, for instance, has spontaneity, which a mere machine has not. He can, by exercise of his own will, vary the course of material things around him. He can start a new series of events. His consciousness protests that he is not a mere machine, nor merely part of one. The mechanical theory implies that all events take place by stern necessity, according to the constitution of the machine. Our conscious freedom, with its concomitant sense of responsibility, contradicts such necessity, and thus refutes the theory.

The Theistic inference on this theory has been called by Physicus, apparently in derision, "metaphysical teleology," as distinguished from "scientific." The latter sees the hand of God in effects as, and when, they are produced within the sphere of nature; the former sees it only in His original constitution of the world. In both cases the inference is of the same kind, and logically sound. Whether He causes the effects we see by mediate, or immediate action, so long as He *does* cause them, it is sufficient for the Theistic argument. Probably the more accurate view of the method is that which regards the Creator as acting on present events both ways—mediately as Creator, and immediately as Sustainer.

(ii.) *Pantheism* has assumed so many various aspects, from the rigid system of Spinoza to the mystical discourses of Hegel, or the dreamy maundering of some

semi-Pantheists, that its full definition is most difficult. The more salient features may serve our present purpose. Its essential doctrine is that God is *the one and all*. There is no God but nature, and no nature but God. The universe is not His workmanship, but Himself. It is uncreated, and consists of one substance only, now presenting the aspect of body, and again of mind, which latter is occasional and partial, as in man. Nor is there any Divine mind apart from such as man's. God is not a person, nor necessarily intelligent; and if the universe were not dignified with the title of God, it would not be unreasonable to identify the system with Atheism; for it contains nothing worthy of the Divine name. All events take place by internal, inevitable, and, for the most part, blind processes of nature. It is throughout a system of rigid necessity, whose wheels grind on for good or ill, devoid of forethought, design, hate, love, moral purpose, or consciousness, in its government. Indeed, it has no government apart from the movements of nature itself.

A specimen of argument in support of Pantheism is that creation is inconceivable, therefore impossible. According to this logic, what is possible? Is the *nexus* of causation conceivable, or the mode of intercommunication between body and soul? We can conceive *that*, but not *how*, these things are; just as we can that, but not how, infinite power may bring something into being.

Again, it is urged that God's infinite power is at fault, if it creates a finite world, seeing that only engages a finite degree of power. But where is the fault? Is the power not still infinite, though not all in exercise? Infinite power does not necessitate infinite action. It

is no defect in a man's power that he has a reserve not put forth. Neither is it a fault in the power of God. To insist that what He does shall be equal to all that He is, or to all that He can do, would require a second God, as the effect, equal to the first, a third equal to the second, and so on, ever repeating the impossibility of a plurality of infinite beings. Until Pantheism sets up a more real and worthy God, it has no claim to be called religion; and until it relies less upon assumption, and more upon the evidence of facts, it has no claim to be called either philosophy or science. It is, in fact, incongruous to represent the Pantheistic God by the personal pronoun *He* or *Him*; and more appropriate to speak of *it*; for at best it is only a thing.

This, however, is not the place to weigh the merits of Pantheism as a whole; but only to point out that its explanation of facts is extremely unsatisfactory.

How does it find an adequate cause for the existence, and motion of the universe? By making it the cause and God of itself. But what is "itself"? Not a simple unit, but innumerable units, each distinct from the rest, and each having an individual reality. Their being joined together does not make them simple. If each be eternal, and self-existent, having the potencies of its motion within itself, as it must, if it be so with the whole, it follows that each is a God, and there are as many Gods as atoms. Spinoza says there is but one substance: "monism" is an essential dogma in his creed. But it is clear, so far as matter is concerned, that the one kind of substance consists of many individual things. Where then is the unity necessary to the Pantheistic God? If the universe is God because it is eternal and necessary, so is each ultimate atom. To say every atom is self-

caused, or uncaused, and causes its own motion, is to deify it, and so to involve deities as numerous as the atoms. But further, how is it known that matter is eternal and necessary? Evidence there is none. It is simply assumed in order to account for the world without a personal God.

How does Pantheism account for the incessant *changes* which characterise the course of nature? Now its forces are active, then quiescent; here developing in this form, there in that; in one case constructing, in another destroying. They are the effects, Pantheism tells us, of nature's own necessary evolution, or devolution. Then, as nature and God are the same, these changes are in God. And is He so mutable a Being as all this? Is the one eternal, self-existent God subject to all the variations of state which characterize the ever-changing world? Moreover, this explanation again throws back present effects upon an eternal regress of second causes, which we have seen to be absurd and impossible. No help is found in Hegel's notion that all things are evolved from *Being*, devoid of attributes, which he dignifies with the name of "pure Being." Such being is inconceivable.

How does Pantheism account for the *harmony* and *beneficent order* of the universe? It cannot be denied that its parts are admirably suited to each other, and co-operate as perfectly, and uniformly as if wisdom had devised the whole arrangement. It is equally certain that good ends are accomplished thereby, as if benevolence had been in the counsels which determined the order of events. Nature is clothed in beauty, and teems with benefits. Had it been contrived by the highest intellect for beneficent purposes, with co-adaptation of

parts to each other, and pre-adaptation of means to ends, it is hard to see how the system, as a whole, could have been better planned and worked. Pantheism excludes benevolence, design, forethought, and intelligence from the cause of this excellent order of things, and attributes it to blind, necessary, eternal forces. Reason cannot be permanently satisfied with this explanation, which is altogether inadequate.

How does Pantheism account for the reality of *mind*, with its wondrous powers of perception, reflection, judgment, memory, imagination, sentiment, and taste? By making it simply a phase or development of the same substance as, in body, is extended and gravitates. Passing by the lack of evidence for this view, we note that it makes thinking an attribute of that which is extended, and divisible. Qualities having nothing in common, but alien to each other, are alleged to be attributes of the same substance. We know nothing of substance except by its attributes, and we reason that every attribute must inhere in a substance corresponding to it. But to ascribe the properties of thought and extension to the same substance is to ascribe, at least, one of them to a substance alien to all we know about the property attributed to it.

Further, Pantheism makes mind the effect and subordinate of matter, instead of its cause and master. Mind is the highest kind of being we can conceive; but here it is made to spring out of something else which is its inferior; for with Pantheism, mind is not necessarily existent and eternal.

How does Pantheism account for *morality*? Instead of explaining the facts of morality, it lays down principles which banish all moral qualities and distinctions

from the universe. As all things take place by a fatal necessity, and without original plan on the part of any personal God, the inevitable result is that no one action can be better or worse than any other. All are alike unavoidable, and none can be intrinsically worthy of praise or blame.

But nature, through the voice of conscience, revolts against this doctrine. An appeal to consciousness at once reveals that moral distinctions are a part of nature, and can no more be got rid of than existence. The intuitive idea of moral approbation and disapprobation, with its complementary sense of responsibility, frustrates all attempts to persuade us there is no such thing as morality. The system, which can only account for the universe by annihilating all moral principles, must be rejected as contrary to nature.

How does Pantheism explain *religion*? With whatever errors, and superstitions commingled, religion is a fact. Mankind clings to the doctrine of a supreme Being above nature. A God is necessary to satisfy the human heart. Pantheism can neither explain, nor satisfy this need. All the adoration, trust, love, hope, fear, emotions, and acts, which make up religion, and seek their object in a deity, are, according to Pantheism, utterly worthless and out of place, in a universe which has no personal God. But these religious instincts, which Pantheism must allow to be a necessary part of the universe, persist in forming an important part of human experience. In its inability to account for them, Pantheism is itself condemned. As little can it satisfy them. To a soul longing for the favour, guidance, protection, and deliverance of a moral

Governor, it is but mockery to point it to the unconscious, non-moral, impersonal substance of the universe. Of moral and religious nature, as of all other, Theism is the best and only satisfactory solution.

(iii.) *Atheistic Materialism*, yet more plainly than Pantheism, meets the question of the connection of effects with the First Cause, by denying its relevancy. It contends that there is no cause beyond nature itself; and, consequently, that the effects we know can only be connected with anterior second causes. In our search for the First Cause, it will not permit us to pass the boundary of matter. By this narrow, unscientific restriction, however, reason refuses to be fettered.¹

English Deism, rejecting the Christian Revelation, argued for a universe working of itself, yet overlooked by its Deity. Atheistic Materialism cast off the Deity, and endowed the self-acting world with eternal self-sufficiency. In its eyes there is no God, no immaterial substance such as spirit, no creation, no supreme Master-mind: there is nothing but matter, or matter with its force, or motion, acting according to law. All events occur as the necessary result of foregoing events. Morality has no deeper basis than our gathered notions of utility; and moral actions are as destitute of freedom and intrinsic moral quality as the revolution of the globe.

Probably Materialism has never been extinct since the days of Democritus, its varied fortunes notwithstanding. It was modified by his disciples, Epicurus

¹ Some questions noticed in Part III. reappear under this head; but in a different relation. The object here is more particularly to note how Theism is affected by the development of science.

and Lucretius. In the hands of men like Holbach, La Mettrie, and Comte, of Haeckel and Büchner, of Mill and Clifford, it has been variously shaped, but, for the most part, has evinced the characteristics just indicated.

In our day, the attitudes assumed by Materialism are chiefly the following. First, there are those who have a theory concerning the cause of things, and feel bound to account for the world without a Creator or Supreme Ruler. Then there are those who deliberately ignore the question as of no moment, and declare it of no consequence whether there be a God or not. Some leading Secularists, as well as Positivists, take this position, teaching that man's whole interest lies in looking to his present secular affairs. Again, there are those who profess to go into the inquiry, and to conclude that, if there be a God, we cannot know the fact, nor get beyond material nature. To this class belong those Agnostics who affirm, not only that we do not, but that we *cannot* ascertain the existence of a First Cause beyond the phenomena of the world. Finally there are those who say we need not, nay we *ought not* to consider the question, whether there be a supernatural cause; which implies a sort of tacit confession that possibly one might be ascertained on investigation. By thus blocking the way to inquiry respecting the most profoundly interesting of all questions, it tends to stultify reason. But our duty and interest alike, despite this Agnostic dictum, bind us to seek after God as Source and Ruler of all. For if there be one, no knowledge can be more vital to our welfare than the knowledge of Him; nor can the pursuit of any knowledge be more in the way of duty.

If it concerns us whether there be a God, it also concerns us to *know* the same. To cast off such concern is a magnified form of the folly, which prompts the citizen to declare that it concerns him not whether the community to which he belongs is subject to a civil ruler, or whether he is under any ethical obligations. The position assumed is the less excusable, because many earnest men report that they have sought and found the knowledge of God. The claims of Theism cannot be justly or safely evaded by this *nonchalant* style of repudiation. But our thoughts must be directed principally to the first of these aspects, which, in its treatment of the subject, to say the least, is not guilty of the flagrant irrationality which distinguishes the last.

The Materialism in question not only avows its subjection to reason, but enters on the same rational course as Theism, by recognizing the principle of causality, and seeking to account for events. But it stops short before reaching the First, and in the most proper sense, the only efficient Cause of all, without which there can be no satisfactory explanation. We may here remind ourselves of what is meant by *explanation* of effects. In science it has been said to consist in "classification." In this sense an object is explained when it is assigned to the class of objects which have the same properties. "Every act of explanation," says Professor Jevons, "consists in pointing out a resemblance between facts."¹ But the word is often used to denote the connecting of effects with their causes by synthetic generalization, as when we infer the unknown from the known. This

¹ *Principles of Science*, p. 533.

is the kind of explanation required for the universe, that is, to find a sufficient cause for the effect. Among quotations from others having a similar bearing, Dr. Stallo¹ gives the following from E. Haeckel: The modern theory of evolution "is the only scientific theory which affords a rational explanation of the universe, and satisfies the craving of the intellect for causal connections, inasmuch as it links all the phenomena of nature as parts of a great unital process of development, and as a series of mechanical causes and effects." The need of causation for a satisfactory explanation is here implied; but the limit put upon its extent does *not* satisfy, but violently disappoints "the craving of the intellect for causal connections." The intellect which craves to know the cause of "the rolling stone," "the growth of the plant," and "the consciousness of man," when told they are caused by "atomic mechanics," still craves to know, not if the "atomic mechanics," and all the second causes in the train, *have* a higher and First Cause, for of that it is intuitively certain; but only to know *what* or *who* is that First Cause. Reason can more easily be satisfied without second causes, than without the First.

The favourite form of the mechanical theory is the *Atomic*, according to which the ultimate elements of matter are rigid atoms, probably all exactly alike, and unchangeable; molecules—a compound of atoms—being the smallest parts into which matter is practically divisible by man. Still more certain are physicists, about the law of the conservation of energy, the cause of motion. Force or energy, of which light, heat,

¹ *Concepts of Modern Physics*, p. 20.

electricity, and gravitation are said to be but modes, may be transferred from place to place, or from cause to effect ; it may be dissipated, or pass out of activity ; but we are told its total amount can neither be increased nor diminished. Apart from this energy, matter is perfectly inert ; it can neither begin nor terminate its own motion. All physical motion is due to energy.

But nothing is more manifest than that all these movements are under *law*. They are always the same in the same conditions. Invariably the denser bodies tend downwards ; ice melts in a certain temperature ; the fruit corresponds to its seed ; friction evolves heat ; and everywhere events occur just as they would on the assumption of a course or rule previously prescribed for, and enforced upon them.

These three, *matter*, *force*, and *law*, are the only data available, if, ignoring God, we attempt to explain the universe by itself. In these alone we have to find the cause, not only of all physical change, but of all life, thought, feeling, morality, religion, with whatever there may be of efficiency, design, harmony, beneficence, and unity in the order of nature ; for all these are comprehended in the universe.¹ How utterly inadequate are these three data to the task becomes evident, as soon as they are put to the test.

Matter, being inert, cannot be the cause of natural phenomena, for they are the effect of change ; whereas it cannot even change itself. So far from solving the question, matter itself has to be accounted for, as a contingent existence. How came it to consist of atoms

¹ The atomic theory supposes all chemical change to consist of motion, and thus to be essentially mechanical ; but this question does not affect our present argument.

and molecules? How came its atoms all to correspond in shape, size, and quality? Whence did they derive their mutual congruity, and capability of cohesion, and co-operation? Theism draws the rational inference that a personal First Cause, nothing else being proportionate, so created it. To avoid this inference, Atheism makes the unwarrantable assumption that matter is eternal, and consequently needed no Creator. But the inference is far more reasonable than the assumption. Our intuitive principle of causality instinctively connects matter with a First Cause; while Atheism resorts to the unprovable hypothesis of eternal matter, in order to evade the inference; and thus it is obliged to take for granted, that every atom is necessary and self-existent, and that millions of self-existent beings were, from eternity, exactly congruous to each other, and all of corresponding size, pattern, and quality, without any cause of their being so. To believe this we must first divest our minds of all regard for the laws of probability. In the oft-cited words of Sir John Herschel, these atoms "have the essential character of manufactured articles."

Recognizing the law of the parsimony of causes, Materialism claims the credit of resolving all things into unity—the unity of matter. But matter, though one in kind, consists of millions of millions of atoms, each one a distinct being, and, on Atheistic principles, self-existent and eternal. Thus instead of resolving all into one cause, it multiplies the causes by the number of ultimate atoms.

As to the *motion*, or *force* of which motion is the action, while as a second cause it explains many things, it requires itself to be explained. What caused the force

or energy? It is futile to refer us from one event to another—from a new phenomenon to its cause in motion, and from motion to its cause and force. It is idle to point us to the interdependence between one form of motion and another. That is an *ignoratio elenchi*. The question remains unanswered, what is the sufficient cause of all the motion, and all the force? The intellect insists on there being one, whether we discover it or not. It brings us no nearer the answer to say the effect we see is dependent upon a series, or any number of series of causes preceding; for the question returns, what are the series dependent upon? No solution is found until we pass from all second causes to the First.

Mechanical motion has no congruity with thought, or will; and therefore no fitness to be their cause. However diversified the forms of motion, its essential idea never approaches to that of mental action.

To trace all to matter and energy *united*, does not mend the case. One is as inappropriate as the other to produce thought, will, and personality; and two causes are no more capable of producing an effect to which they are both inappropriate, than is either of them separately. A mere hypothesis, which, by ascribing mind to matter and force alone, has to encounter insuperable difficulties at every step, has no claim to the title of science, or to rank as a rational account of the universe.

Failing to explain all by matter and energy, the Materialist sometimes brings in *Law* to complete the solution. But Law, when questioned, like Balaam, blesses what Materialism bids it curse. Force works so uniformly in a set order that, in a given case, its

future modes can often be foretold. On its doing so, men daily stake the greatest issues. Atheism attributes this to law. But since law is not efficiency, that only shifts the question to the meaning and cause of law. Law is not a substance, nor a force; but a rule to which the ways of force conform. It is the reason why force proceeds in this way rather than that. The proper notion of law is that of a precept authoritatively imposed by a lawgiver, and applies to moral government; and it is because we see how physical forces act, as if commanded by an authority who determines their courses, that we borrow the term from moral government, and say the changes of all nature are subject to law. Observing that those forces are regulated, and harmonized, and always act in the same way under the same conditions, we infer there must be a rule, plan, or order, according to which they act. But all this presupposes intelligence to devise the plan, and authority to enforce it. Law is not substantial, but ideal, and belongs to mind. It makes no difference to our argument whether the law be enforced by constituting the substance, or the energy, so that it cannot but act as the law intends, or by incessant influence of the Lawgiver; there is an ideal in either case, which necessitates a master-mind.

An Agnostic Atheist tells us, laws are "the product of self-evolution."¹ Then that, out of which they were produced, was previously in the self-evolved subject; for they could not be produced out of nothing. But how came they to be latent in matter? and how came laws, such as intelligence alone could produce, to be

¹ "Physicus," p. 86.

produced by unintelligent matter ? and whence came the law of self-evolution, which produced all the other laws ? All laws must have been produced by something anterior to themselves ; and therefore before the law of "self-evolution" originated. Thus "self-evolution" was produced by law before any law existed ; and law was produced by "self-evolution." Ill conditioned indeed must be that philosophy whose foundations are laid in such circular reasoning.

The law itself is a fact to be accounted for ; and as neither matter, nor force, can arrange, co-ordinate, and adapt, especially on the vast scale visible in nature, the cause of law must be sought outside the Materialist's universe. Atheism fails to find that cause—nay, forbids all search where it is likely to be found. Theism easily finds it in Almighty God.

By way of finding the First Cause of nature within itself, it is sometimes represented as a machine in which one form of motion eventuates in another, that in a third, and so on, the unchangeable sum total of energy being continually transferred, all events taking place on the principle of interdependence between the parts, that is, action and reaction. For example, the ice thaws because energy, as heat, is transferred to it from the sun ; the mill-wheel is turned because energy is transferred to it from the melted and falling water ; the corn is ground by the energy it derives from the wheel ; the energy passes from the flour to give action to the animal frame, and is thence transferred to the objects on which the animal acts, and may ultimately find its way back to the sun. This is no solution of the problem at all ; but so far as it goes, explains a totally different problem, namely, how the parts of nature affect each other.

The question to be answered is, what is the prime cause of *all* the changes, and of the entire machine? What caused the interdependence? Whence did the machine obtain its forces and laws? We have an instance of this see-saw kind of explanation in the words of Dr. Louis Büchner. Speaking of the reciprocal dependence of animal and vegetable life, he writes, "They in no way follow a supernatural order, but a strict necessity, which results from the things themselves and their relation to each other."¹ The "things themselves" are the animal and the vegetable. Each feeds upon what the other throws off as refuse. Could blind necessity suit them to each other, with such precision, uniformity, and universality? To say "the things themselves" are the cause of their interdependence, only evades the question at one point, to be confronted by it at another; thus—What causes "the things themselves" to cause this interdependence? and the question is never answered until we reach an uncaused cause. It must be that, or again, an eternal succession of causes, which, as we have seen, is forbidden by the law of contradictions.

We need not insist too tenaciously that "their relation to each other" is their mutual dependence; and therefore, not its cause. For it might be intended that one relation is the cause of another. It is, however, relevant to ask, how this "strict necessity" is ascertained. Is it anything but a baseless assumption, used as a way of escaping a Theistic conclusion? Again, if such finely-adjusted events take place by "strict necessity," how does that exclude a "super-

¹ *Force and Matter*, p. 103.

natural order"? "A supernatural order" is not, as the statement assumes, the antithesis of a "strict necessity" in the motions of animal and vegetable life, and therefore is not excluded by it. Not only are the two compatible; but even if the "necessity" were granted, it would still be easier to account for such necessary relations by reference to a supernatural intelligence than by an utterly unintelligent, and unintelligible abstraction under the name of "strict necessity." The former readily explains all; the latter explains nothing. On the whole, despite the semblance of argument, Büchner's statement amounts only to an unsupported Atheistic assertion, which will not bear the light of truth.

The same writer observes, that "the search of philosophers after a First Cause is like ascending an endless ladder."¹ Precisely so, as long as they obstinately refuse to recognize any cause but matter, with its energy and laws. But how is it known to be endless, not having been climbed? The futile effort to find all in second causes is obviated by the Theist, who, instead of attempting to ascend an endless ladder, ascends from second causes to the First.

The speculations of scientists concerning matter or "mass," their unquestionable, and invaluable discoveries respecting energy, their vastly enlarged acquaintance with physical laws, while highly serviceable to the ends of science and man's secular interests, so far from enabling the Atheist to account for the world without a God, have enriched Theism with new displays of Divine wisdom.

¹ P. xxviii.

To make up for the failure of necessity to explain the world, resort is had to the ancient theory of "fortuitous combination." "The combination of natural materials and forces," says Büchner, "must in giving rise to the variety of existing forms, have at the same time become mutually united, and determined, and must have produced corresponding contrivances, which, superficially considered, appear to have been produced by an external power. Our reflecting reason is the sole cause of this apparent design, which is nothing but the necessary consequence of natural materials and forces." "What is now existing in the world is the remains of an infinite number of beginnings." As nature acts not from "conscious design, but according to an immanent necessary instinct, it becomes obvious that it must be guilty of many purposeless absurdities."¹ The meaning is that after millions and millions of abortions, the atoms and forces in existence were of such a character that, at last, without thought, design, or act of any other being, they *necessarily* happened to fall into harmonious combination, taking the form of the present universe.

It is almost superfluous to remark that this is a wild hypothesis, for which no tittle of evidence can be adduced, and whose only *raison d'être* seems to be that some supposition, however extreme, must be devised, rather than accept the Theistic solution.

But the hypothesis is overwhelmed with improbability. For instance, it implies that not two, but countless millions of atoms fell into harmonious combination, that their qualities and forces became adjusted

¹ *Force and Matter*, pp. 89, 90, 92.

throughout the immeasurable range of existence, leaving none out of the arrangement to subsist or wander aimlessly, each taking its place and work in an all-comprehensive, perfectly balanced system, which everywhere works on uniform principles, and bears as much the impress of unity, as if infinite intelligence had contrived and conducted the whole; and yet intelligence had nothing to do with it! In asking us to believe this stupendous improbability, Atheism must reckon on a credulity not surpassed by mediæval superstition. Far more accordant with sober truth seems the view of Sir Isaac Newton, that "God in the beginning formed matter in solid, massy, hard, impenetrable, movable particles of such sizes and figures, and with such other properties, and in such proportion to space *as most conduced to the end for which He formed them.*"¹

Presuming that all the sounds essential to a skilled performance of Handel's *Messiah* are contained in the discordant noises of the city of London, it is conceivable that, at some juncture, they, or some of them, might without design, happen to unite in such harmony and orderly succession as would be identical, in the result, with an artistic performance of that masterpiece; and that without any previous conception of the music by Handel, or any other intelligent being. But the chances against such a coincidence are so vast that we are as certain it will never occur, as we are that two and two will never be equal to five. Or suppose by a similar combination of accidents, coal,

¹ Quoted from Newton's *Optics*, by Dr. Stallo, *Concepts*, p. 40.

timber, stone, brick, leather, oil, iron, wool, and every other element comprised in a large manufactory, were to come together and produce large quantities of useful fabrics, without intelligence. The improbability of such occurrence, though very great, is far less than that offered to us by Atheism. Or take the more familiar illustration. Suppose the type, which, skilfully composed, would print *Paradise Lost*, to lie in a confused heap, and then being knocked about by accident, to fall together just as the compositor would place it for the printing of that poem; suppose too, that the press came together in the same way, and, by a fortuitous combination of forces, the machine struck off a great number of copies; and stranger still, suppose no mind, Milton's or any other, had previously made the poem; and that it was afterwards read and admired by intelligent beings; everybody must see this is an hypothesis devoid of the faintest trace of probability. But far more extreme and incredible is the hypothesis that all materials and forces, being in a state of chaos, came into the mutual fitness harmony and order now everywhere visible, and that without prevision, or intelligent contrivance.

It is important to note further, that if this extravagant theory of cosmogenesis were allowed to pass as sound, it would not carry the Atheistic conclusion. We should still have to ask for the cause of this strange genesis of our cosmos. A fortuitous event is no more uncaused than any other; how much less such a collocation of events as this hypothesis is invented to explain. When we have supposed the present world, with its magnificence and systematized forces, to have originated by the accidental correlation of chaotic elements, the laws of thought declare that such beginning must

have been the effect of some anterior cause ; just as certainly as are the ordinary operations of to-day. Thus the hypothesis would not bring us a hair's breadth nearer an explanation of the world.

We are led to the same result, if we seek an Atheistic explanation, by means of any particular theory of cosmogenesis. Take, for example, the nebular theory. Our question is not, whether it be true ; but whether, if true, it would sufficiently explain the present world. Our objection is not to the theory ; but to its Atheistic application. According to the theory, all matter was primordially attenuated and uniformly distributed. By some means, large portions got separated into nebulous masses, resembling in consistence some now existing. Gradually these masses cooled, and consequently revolved more quickly, until, in course of time, they developed into the present celestial and terrestrial bodies, and, by similar processes of evolution and motion, attained their respective structures and movements. Much has been adduced from the laws of motion and other quarters against the theory.¹

My only concern is to point out that were the theory accepted, it would fail to account for our universe, with a First Cause. At every point the principle of causality demands efficiency, and when the search has brought us through the formation of the orbs and of the nebulae to the primordial atoms, the question remains, how could these uniformly distributed atoms begin to fit, and act upon each other, and act together in unison ? How came they to be

¹ See Stallo, *Concepts*, etc., pp. 277-286.

thus uniformly distributed? and how was it they all, just at the same time, acted according to similar laws? How, unless they were so constituted and correlated by some intelligent power? The impossibility of accounting for the existence attributes and procedure of the primordial atoms, without God, is as fatal to Atheism as the impossibility of so accounting for the complex, and highly organized universe of the present time.

Take, again, the hypothesis of "meteoric agglomeration," which supposes that primevally there were swarms of meteors, "of all sizes, and of all degrees and forms of consistency and aggregation, moving about at all rates of velocity, in all directions, and in orbits of every degree of eccentricity. These masses would be consolidated, and movements, both of rotation and revolution, would be generated in the bodies so formed by their collisions."¹ Again, causality demands a cause for the swarms of meteors, their likenesses and diversities, their directions and velocities, their capability of collision, rotation, and consolidation. Nor can it be satisfied with merely second causes, however remotely traced.

The impotency of Atheism to explain the universe becomes yet more manifest, when we recollect that *life, and mind, and morality, and religion*, are as truly a part of the universe to be accounted for, as matter and motion. It is beyond question that life cannot be produced in nature, except from life; that all the chemistry and mechanics of science are unable to originate it. Materialism is bound to confess it cannot find out how non-living things could develop life from themselves

¹ See Stallo, pp. 287, 288.

alone. Yet rather than believe it is due to the wisdom and power of a First Cause, it makes the enormous assumption that life is only a form of "atomic mechanics."

Assumption grows yet more desperate, when it insists that *mind*, with its marvellous faculties of perception reflection memory judgment imagination and sensitivity, is nothing but matter and motion. Properties altogether foreign to matter are declared to be material; operations having no conceivable congruity with mechanics are pronounced mechanical; the process of thinking, the connection of which with the most highly organized form of matter—the human brain—defies all conception, must nevertheless be assumed to be only a state of matter, in order to meet the exigencies of Atheism. And this method of proceeding, forsooth, is the one which lays special claim to be considered the ally, or the child of modern science. Professor Tyndall at Birmingham acknowledged the mysterious chasm between brain and thought; but when at Belfast, he "discerned" in matter "the promise and potency of every form and quality of life;" it was when he had "prolonged the vision backward across the boundary of the experimental evidence," that is, it was "discerned" by a stretch of imagination less excusable in a great scientist than in a neophyte.

Pressed by the essential difference between matter and mind, and unable to dispense with the latter in accounting for the phenomena of the former, the exponents of Atheism have sometimes sought help in the stoical doctrine of Hylozoism, which considers every minute particle of matter as intimately united with a measure of mind, acting as the formative energy of

nature (*natura naturans*), and the cause of all mental phenomena, indeed the God of the universe, so far as anything can be so designated. Hylozoism leads now towards Pantheism, and then towards Materialism. Not to dwell on the preposterousness of a God thus divided distributed and eternally tied down to matter, we observe that such a God must be impersonal, having no united control over the world, and incapable of moral government. But how comes the mind of each atom to behave in harmony with that of every other, and all of them to unite in a system which comprehends all existence, and to operate through innumerable ages as perfectly as if designed and ruled by the wisdom of an Infinite Mind? This theory of "mind stuff" besides being a mere hypothesis, utterly fails to make up for the incompetency of Atheism to account for the existing world.

Morality constitutes a large proportion of human experience. The notion of moral qualities is universal and ineradicable. Much of human conduct is directed by moral judgments. Such is the character of most men's social behaviour; and many of their emotions are associated with moral approbation or disapprobation. But how it was possible for all this to arise out of matter and motion, the materialist is unable to explain. He has to make his choice between a gross utilitarianism from which everything worthy the name of morality is eliminated, and the renunciation of morality altogether; either of which, being contrary to nature, is fatal to Atheism.

Of course religion and Atheism are exclusive of each other. But religion is a great *fact* in what the Atheist calls nature; for on his scheme, whatever is must be

natural. Consequently he is bound to reconcile the fact with his system. But how can he? Unless nature, in its external order, and its human intuitions and ratiocinations, as well as in the deepest instincts of the human heart, clinging as they do to the idea of God, be the greatest and most deceitful lie—that is, nature lying to itself—the dictates of human reason and the religious needs and bias of human nature admit of no solution except as the work of God.

In conclusion, we are warranted by the foregoing considerations to affirm that Atheistic Materialism is condemned on its own appeal to science and reason. With some exceptions, it, like Theism, recognizes the principle of causality, and reasons on natural phenomena as effects of antecedent causes; but it stops short of tracing up the regression to an adequate cause, in which alone “the craving for causal connections” may firmly and for ever rest. Indeed it deliberately refuses to be led by the same principle of causality to Him in whom it might gratefully find the source and end of all things.

PART V.

*RELATION OF NATURAL TO REVEALED
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THE Revelation referred to is that which comes to us through the supernatural inspiration of the Scriptures of the Old and New Testaments. The scope of our inquiry does not comprise the credentials of Christianity, or of its Sacred Books. Assuming that, in the Scriptures, we have Divinely authoritative doctrine of Divine things, distinguished as pre-eminently *The Revelation*, and that, at least, something of the same doctrine may be educed from nature, which is also, in a more general sense, a revelation from the same source, it becomes much more than a matter of curiosity to inquire how the two revelations stand related to each other. For doubtless if both be true, and have a common origin, there must be correspondence between them. We may reasonably expect that one will be complementary, supplementary, or auxiliary to the other, and that the more they are understood, the more they will manifest their mutual agreement in doctrine, and as means for common ends.

There are earnest defenders of the faith who might object to the phrase "Revealed Theology," on the ground that Theology is human and revelation Divine. It must be granted at once, that the process of throwing

Scriptural truth into systematic form is the work of men, and the theology thus produced may err, more or less, in both substance and form. So far as it is human and not Divine, it is no part of the Revelation. But so far as, in substance or form, it is derived from the Scriptures, it is Revealed Theology, just as the faith and practice of religion, so far as they are drawn from the inspired Scriptures, are Revealed Religion. For example, the doctrines of the Trinity and the Incarnation, being unknown to us except through the supernatural Revelation, remain Revealed Theology when correctly set in the creeds of the Christian Church. They are Divine in their source, and belong to the subject-matter of Divine teaching.

Moreover, beyond the systems which men form, there is a real, infallible, and Divine system of truth in relation to Divine things. The truth to God's mind is one. Its several parts to His view are not, as they may seem to ours, at various points unrelated or disjointed, but perfectly harmonious, one involving another, and all constituting a unity without excess or defect. Our systems of theology are attempts to reproduce that perfect system, in whole or in part. So far as we reproduce it from the Scriptures, it is matter of Revelation, and is Revealed Theology.

In the present case, however, there is no begging of the question in the use of the phrase. It is employed not to stamp any particular system as Divine, but as a convenient form of words to distinguish our knowledge of Divine things, as derived from the inspired Scriptures, from kindred knowledge gathered by observation of nature.

Respecting the comparative value of the several lines

of argument, by which natural theology is constructed, opinions of believers differ. To some there is nothing so assuring as general consent, while others cling to what they consider intuitive dictation. A few may claim the palm for the necessary concepts of the human mind, and the necessity of corresponding reality. These, in the estimation of others, yield but little support in comparison with the universal tradition, which, from the earliest times, has handed down from sire to son, though in widely different forms and degrees, the sublime idea of a Supreme Being, around which argument has entwined itself, but whose enlargement consistency and splendour are due to supernatural Revelation. Difference of mental calibre and habit, combined with diversity of outward conditions, may do much to account for this variety of preference.

I may therefore be allowed to declare my preference for the course of argument pursued in the foregoing pages, as the most simple, cogent, and available. At any rate, whatever its comparative value, it is a factor of the highest importance, in the maintenance of Theistic belief. It requires no extraordinary mental power or training to grasp its significance, and feel its force. It is accessible to ordinary minds; and if attention be centred on the subject, the inference of a First Cause is often felt to be unavoidable. To look for the causes of things is one of the most familiar and interesting exercises of the intellect. Applied to the First Cause, it is but the same law of thought carried out within its legitimate province.

Truly enough, there has grown up around the question much metaphysical and abstruse controversy.

But the kernel of the question remains simple, and the Theistic inference easy, and convincing. That every event must have a sufficient cause, that all second causes must have a First, and consequently, that a First is required to account for known events, is an argument quite within the compass of the generality of minds, while the materials for its construction are as plentiful, and ready to hand, as the facts of human experience and observation.

The value of the argument is not to be measured solely by our ability to *present*, or even to *remember* all its parts and their logical articulation. All the better if we can, at any moment, retrace the grounds of our conviction. But on secular, and scientific, as well as sacred, subjects it is neither uncommon nor unreasonable to hold fast a conclusion when the reasons for it have more or less faded from the memory. Not unfrequently men feel bound to abide by a judgment, though unable to recall all the decisive steps of the process by which it was formed, or to detect on the instant the flaws of objections raised against it. In such case, we recollect having seen good reason for the result; and our inability to recollect fully the process of conviction does not deprive us of that result. Unable to answer an assault upon our position, we are nevertheless sure we have honestly chosen safe ground. Many a mind might be puzzled to detect the fallacies of Hume's or Mill's objections to the etiological proof, and yet justly decline to surrender a jot of its assurance that the proof was sound.

Doubtless many honest minds see the power and wisdom of God in nature, and devoutly connect His wonderful works with Himself, without ever throwing

their thoughts thereupon into logical form, and possibly without ever thinking that they are reasoning at all, though a challenge may set them on adducing or formulating their reasons. So simple and natural is the process of associating the effect with its cause. On the other hand, perversity of disposition may obscure, and even destroy the recognition of the First Cause, as it did in the corrupt Gentiles, who, because "they refused to have God in their knowledge," lost sight of "that which may be known of God." "For the invisible things of Him since the creation of the world are clearly seen, being perceived through the things that are made, even His everlasting power and divinity." But any other branch of Theistic evidence is liable to be nullified in the same way.

I cannot but think the etiological argument has received scant justice at the hands of some orthodox theologians. Dr. Hodge, for example, says it "does not give a satisfactory reason for the universality and strength of the conviction of the existence of God. Our own consciousness teaches us that this is not the ground of our own faith. We do not thus reason ourselves into the belief that there is a God; and it is very obvious that it is not by such a process of ratiocination, simple as it is, that the mass of the people are brought to this conclusion."¹ In these sentences the *proof* is confounded with the first *discovery* of the notion of God in the minds of individuals, which may rest on different grounds. Some of the statements seem to refer to the former, and others to the latter. As a matter of fact, men seldom, if ever, "reason

¹ *Theology*, vol. i. pp. 199, 200

themselves into" the discovery ; but they often do into the evidence, and into more consistent views of God. The proof may be elaborated long after the idea is conceived.

There is a logical, and a chronological order of our knowledge of God. In the order of time, the first ideas of God, among all nations, are commonly derived from parents teachers and elders, as they received them from their predecessors ; and that prior to proof, or controversy, just as we derive our first impressions of Christianity, and even of science. It is generally, in the first instance, a matter of testimony by those whom we can trust. But by-and-by questionings arise from within ; attacks are made from without. Theism comes into conflict with anti-Theism. Everything is challenged. We have then to feel our way down to first principles, to analyse our consciousness, to question external nature, and, according to our ability or need, to formulate the reasons of our faith. This logical order amplifies, corrects, and proves the idea of God received previously by tradition ; and in the etiological argument it reasons upwards from nature to God. If not "the," it is certainly *a* very important "ground of our own faith:" and though it does not give *all* the reasons, it does "give *a* satisfactory reason for the universality and strength of the conviction of the existence of God." It is undeniable that the "strength" is increased, and the "universality" maintained, more or less, by the evidence of nature as an effect of a First Cause. Even benighted barbarians get glimpses of the Psalmist's lofty view of God as nature's Cause. "The heavens declare the glory of God, and the firmament sheweth His handiwork."

The same kind of objection has often been raised against the evidences of Christianity. With few exceptions, belief in the Divine origin of the Christian religion precedes the knowledge of its evidences. By the process just mentioned, the truth is accepted on testimony, and its supports in reason are learned and arranged in the order of thought afterwards ; the last being often placed first, and the first last. But that inversion of the temporal order of Christian apologetics, is no disparagement of their value ; neither is Theistic evidence disparaged by that order which builds up faith in God's existence, on the foundation of reason applied to His works. Viewing the matter in this light, there is no warrant for the assertion that "our own consciousness teaches us that this is not the ground of our own faith," unless it mean the exclusive ground ; and even then the statement needs qualification.

No single line of proof could be properly called the exclusive ground of Theistic belief ; but we have a right to say that, without the etiological argument, no system of Theism can be complete ; while in respect of force and wide applicability, it is second to none. Had we any accurate test, it might be found that much of the strength and prevalence of Theistic belief, apart from Revelation, is largely due to this familiar habit of reasoning from causality. At any rate Dr. Hodge's appeal to consciousness is not conclusive in favour of his view. The consciousness of many tells them their belief in God owes much to this line of argument ; and probably many more are under the same obligation, who never analyse the bases of their belief ; while doubtless again the known convictions of many etiologists, who are regarded as sincere, and

competent judges, influence many in favour of Theism, who never investigate thoroughly for themselves.

Dr. Hodge varies the phraseology when speaking of the influence of tradition. The one section is headed "The knowledge of God is not due to a Process of Reasoning," while the following is headed "Knowledge of God not due exclusively to Tradition," as if to intimate that it is not due *at all* to "a Process of Reasoning." Enough has been adduced to show that, in part at least, it is due to reasoning.

The whole bearing of the comparison seems intended to imply that the one thing to which our natural knowledge of God is due, specially if not exclusively, is *intuition*. "There is no satisfactory way," he avers, "of accounting for the universal belief in the existence of God, except that such belief is founded on the very constitution of our nature." Truly enough the etiological course of argument is "founded in the very constitution of our nature;" inasmuch as it is founded in the necessary intuition of causality. But the context makes it clear that Dr. Hodge means a *direct* intuition of God's existence, which, as we have seen, is the least reliable ground of Theistic belief.

The strength, however, of natural theology is to be estimated, not by any one line of proof, but all combined. The comparative value of each is of little consequence compared with that compact body of evidence which is afforded by all united. This indeed is the only reasonable standard of their value. The several departments of evidence are so many pillars, though not of equal strength, on whose combined support our faith may rest securely amidst the adverse winds of doctrine and varying currents of scepticism to which religion is

exposed ; but which, to earnest faith, need be nothing worse than a bracing discipline.

From one point of view natural theology confirms revealed ; and from another, is confirmed and completed by it. In the latter case the natural is a postulate and basis of the supernatural—a preparatory stage of Divine knowledge—a strong presumptive ground, on which to expect the supernatural as its complement and explanation. In the former case, natural theology is a branch of knowledge to which the supernatural is nearly akin, and from which it claims acknowledgment.

1. *Natural Theology as a POSTULATE of Revealed.*

The Christian Revelation is addressed neither to an anti-Theistic, nor a non-Theistic state of mind. The idea of God is taken for granted, which presupposes some means of attaining the idea independently of the Revelation. The idea may be crude, abject, inconsistent, or otherwise unworthy of the reality ; yet it is there. It would be an exaggeration to assert that natural theology is a *sine quâ non* of supernatural. But the position of the latter would be much weakened by the absence of the former. Revelation gives, not an entirely *new*, but a much *clearer* and *fuller* view of Divine things ; and, in doing so, it has the advantage of the preparation afforded by the inferior state of knowledge. As is often remarked, the one is a republication of the other ; and, in part, owes its success to what remains of the first publication. The second is a Revelation of *what*, rather than *that* God is. Were there no natural theology, the supernatural could not, as now, build upon its recognized truths ; but must commence its work with a non-Theistic state of mind, and without the data it now finds in natural theology.

The position of English Deism was manifestly untenable. Change towards Christianity in the one direction, or, in the opposite, towards Pantheism, or Atheism, was, as the result showed, logically inevitable. The Deism of Lord Herbert and Dr. Tindal included ideas of God as seen through His works, which created so high a presumption in favour of revealed religion, that either Christianity must be accepted, or belief in the Deity abandoned. It became apparent that natural theology, if true, was a postulate, from which it was easy to argue the truth of the Christian Revelation. It is so still. As a foundation may be undervalued because it is hidden beneath the superstructure, there is danger lest the dependence of revealed religion on its natural supports should be forgotten or under-estimated. Take, for example, some of the well-known evidences of the Christian religion.

The place of the *Presumptive* argument is anterior to the reception of the inspired Scriptures. It runs thus,—A supernatural Revelation is *possible*. From all we know of God and man, there is nothing on either side to preclude the possibility. For instance, if some such process as inspiration be necessary, as a medium of communication, there is nothing in nature to prevent its use. Moreover, such Revelation is *necessary*, because of man's ignorance on questions of deepest moment to himself. He knows enough to require more. Consequently it is *probable* that God will grant such Revelation. Assuming His ability and man's necessity, it may be inferred that He will not withhold the knowledge of Himself for which man craves. But this inference of what God will do is based on our previous ideas of what He is, in power wisdom and

goodness. The fuller knowledge is anticipated, because of the partial knowledge already in possession. Imagine man in his present condition, minus all natural and supernatural theology; and the argument is then impossible.

Again, the supernatural Revelation is attested by *miracles*. Had the Materialistic theory of nature been true, miracles would have been impossible. On the Theistic view of nature, there is nothing therein to preclude miracles. The question of their occurrence is simply one of evidence; not of possibility. But to approach the question of supernatural Revelation with the knowledge that the Author of nature is able to attest any such Revelation by miracles, is an immense advantage on the side of the Revelation.

Further, if we approach the subject holding the philosophy of nescience, as propounded by Hamilton, and applied by Spencer, credulity is strained to the utmost, on the two questions, whether God is, and what He is; for we have then to accept the idea of God *solely* on the statement of the Revelation; and, at the same time, to believe the reality may be altogether different from our idea of Him. The certainty that we have found some evidence that God is, and that we know to some extent what He is, prepares us for accepting Him as being what His word declares Him to be.

Again, scanty as our knowledge of God may be, it is enough to afford some touchstone of the character of the God revealed. If from nature we learn that He must be a Being of supreme power intelligence and goodness, we are prepared to reject any professed Revelation, the author of which is devoid of these

characteristics. The pretended message is discredited, as unworthy of a Divine origin ; while the unfolding of these characteristics, even in far brighter lines than those in which nature shows them, is a *primâ facie* reason for accepting as Divine any message accompanied by such credentials. By this criterion, systems falsely claiming to be from heaven have been detected, and justly condemned ; and by it the Christian Revelation has been heard speaking as became the voice of God.

Once more, natural theology involves expectations of, and longings for certain benefits at the hands of God—not only the fuller knowledge of His attributes and general government, but assurance of His pity and helpfulness, and the terms on which they may be obtained. It may thus be concluded beforehand, that any true Revelation from nature's God will correspond to this need. Here then is another clue to aid our endeavours to discriminate between true and spurious Revelation.¹

2. *Natural Theology as a CONFIRMATION of Revealed.*

Natural theology may be conceivably approached on the side of Revealed from either of two starting-points. We may suppose the Scriptural idea of God taken for granted, as needing no proof of its own beyond commending itself to the human intellect and heart previously blank on the subject, and so commanding assent ; and we may conceive of the mind as thence proceeding to compare it with the teachings of God

¹ Professor Flint in his able *Lectures on Anti-Theism* has well observed that no anti-Theistic system can ever lead up to revealed theology. On the principles of Atheism or Pantheism, such revelation is obviously impossible.

in nature. Of this process we have no experience. We know of no people, who, on first hearing the message of the Scriptures, were utterly destitute of the notion of Deity. Hence we have no test-case. Consequently, we cannot say positively that such would be the effect in any unknown case. The Scriptural idea of God commends itself powerfully to the human mind ; but it does so on various grounds or reasons, such as its intrinsic excellence, its responsive fitness to the human intellect and heart, and other kinds of evidence which presuppose some notion of God.

Or, on the other hand, we may begin with testimony and history, and, on indubitable proof, conclude that the Scriptural Revelation of God's existence and character was demonstrated "by signs, and wonders, and divers miracles." And with the knowledge of God thus obtained, we may proceed to the consideration of nature, in relation to the same subject. This is a valid line of argument, every step of which may be logically established. But it rears the whole fabric of theology on a somewhat narrow base ; firm enough it may be for rigid logic ; but our faith reposes more securely, when this form of argument is buttressed by that which nature supplies.

My present object, however, is to show that on whatever argumentative basis the Scriptural knowledge of Divine things rests, when we take it with us into the realm of nature, it is strikingly corroborated by its correspondence to the revelation of God in nature.

The God of the Bible is one, almighty, eternal, all-wise, righteous, and benevolent. In less definite characters, the same attributes may be read in the phenomena of mind and matter. Were it otherwise, the silence of nature might awaken suspicion of the

declarations of the written Word. All our ideas of the relation of God to nature would have to be brought to it from the verbal Revelation; and thus the Theism of nature would be destitute of foundation in nature, and dependent entirely on supernatural communications. Happily, the credentials of supernatural Revelation are not required to bear this ponderous burden; but, on the other hand, they receive support from natural Theism. As the case stands, that which the Word declares the works of nature illustrate and confirm. Revelation professes to come, not from a God having nothing to do with the world we live in, but from one to whom all things are subject, and whose attributes are unfolded in His dominion over all existence. When, therefore, we read on every page of nature, the signs of His wondrous unity power wisdom justice and benevolence, we are constrained to say, this is the same Supreme Being as we behold in our written Revelation. Thus the correspondence goes far to establish the truthfulness of the supernatural message. The lack of this correspondence is becoming increasingly felt by some anti-Christian systems, the deities of whose sacred books bear little or no resemblance to the Divinity evidently controlling the world and its operations. The more our knowledge of nature increases, the more fatal it proves to the teaching of heathen religions, respecting the relations of Divinity with the origin and government of the world.

Then again, the written Revelation represents man as having, by sin, come under Divine displeasure; and yet as under a redemptive dispensation which brings the Spirit of God into active intercourse with men's minds, awakening compunction for sin and yearnings

after a better state in the future. The counterpart of all this may be traced in human nature, where sin and conscience are seen in perpetual conflict, and men's hearts aspiring after, or longing for deliverance from the miserable realities which cling to their mortal life. Human and cosmic nature reflect, with more or less distinctness, the Scriptural doctrine of man's deteriorated relation to God. The cause of Christian evidences could ill spare the confirmatory echo with which natural theology answers to supernatural.

An excessive estimate of the *self-evidencing* character of God's revelation inclines some of its friends to ignore, or dispense with this, and all other collateral support, holding that the Divine voice has only to speak in the Word, and it will be its own all-sufficient, and irresistible evidence to the human mind. Nothing would be more difficult to prove than this view. But its advocates might deem it, like the Revelation, sufficient without proof. For others, however, proof is essential in order to the reception of either the Revelation or this theory of its credentials.

It is easy to mistake for self-evident truth what at once commends itself to our judgment taste and necessity, impressing us at the same time by its beauty, its self-consistency, and its agreement with previously ascertained truth. Closer analysis of our thinking discovers comparison and reasoning, though it be instantaneous. The intrinsic excellence of the subject-matter of Revelation may well command our admiration, and bespeak our hearty concurrence ; but on reflection our faith will instinctively cast about for evidential sustenance.

It is plausibly represented that the idea of God, as

presented in the Scriptures, is no sooner seen than it is self-evident, as the light of the sun no sooner falls on the eye than the sun is self-evident. This is merely saying the mind perceiving an object is assured of its own perception. In the case before us, it perceives the representation of God, and needs no further proof that it actually perceives it ; as seeing a round bright object called the sun through the eyes, it needs no other evidence of the fact that it sees an object of that description. But the question is not whether something is perceived, but whether what is perceived is what it purports to be, that is, whether the round, bright object be really the sun, and whether the Scriptural representation of the idea of God be true. If our certainty on this point depends entirely on the self-evidence of that idea, what of those whose idea is partly correct, and partly incorrect ? The idea is complex, comprising several different attributes. Is each self-evident ? Is their internal harmony self-evident ? If this claim for self-evidence be valid, those who have been wont to accept the Scriptural notion of God, because it corresponds to their conceptions of what is most perfect, to all that is seen of Him in nature, and to all the characteristics and needs of the human soul, and because it is attested by supernatural signs, and by the proceedings of the same Being, as they are recorded in the Scriptures, must cast away these solid grounds of confidence, to rely alone on the self-evidence of the presentation—if they can.

3. *Natural Theology* INADEQUATE.

Notwithstanding its great value as a partial revelation of God to man, natural theology is far from sufficient to supply what man needs. As a mountain it rears its

head far above the dead level of ignorance ; and as we climb any of its sides, we may fondly fancy it will prove the loftiest summit of the range ; but on scaling its highest eminence, we find it but a stepping-stone to a far higher in Revealed religion. When the latter has remained invisible, the most successful climbers, such as Socrates and Cicero, have looked away from the peaks of natural theology into the dark depths of the unknown, with feelings of despondency. This truth stands out in bold relief, if we consider man's chief needs on the subject.

(1) The question of the *Divine Attributes* is all-important to man. What God is determines what He does. But how incomplete is natural knowledge on this subject. We catch glimpses of God's handiwork, and, by a series of inferences, conclude that He is perfect. But occasionally His justice and goodness are difficult to make out ; and instances have occurred where men thought wisdom was wanting. Nothing in nature warrants a conclusion adverse to the perfection of its Maker ; but " shadows, clouds, and darkness," sometimes obscure the view. After all our deductions, God seems distant and unfamiliar—a dread personal power behind the veil, until we hear His direct declarations, " God is a Spirit ;" " God is light ;" " God is love ;" " the living God ;" the " I am ;" " King eternal, immortal, invisible, the only wise God ;" whom " heaven and the heaven of heavens cannot contain ;" " God blessed for ever ;" " with whom is no variableness, neither shadow of turning ;" " not a man that He should lie, nor the son of man that He should repent ;" " Holy, Holy, Holy, Lord God Almighty, which was, and is, and is to come ;" " The Lord, the Lord God,

merciful and gracious, long-suffering, and abundant in goodness and truth ;" "a God of truth and without iniquity, just and right is He." Then the dim outlines of natural theology are filled up, and the Divine perfections appear full-orbed—a glorious personality, the supreme object of pure affection and delight.

(2) The doctrine of God's *Tri-unity* is altogether one of special Revelation ; yet necessary to explain the methods of Divine procedure. The economy of redeeming grace is framed and conducted in harmony with that doctrine, without which the scheme of man's recovery from ruin cannot be understood. But nature is silent on the doctrine. Nowhere but in the Revelation of the Scriptures do we discover that the "name" of the thrice Holy God is "Father," "Son," and "Holy Ghost."

(3) What is to some extent deciphered from the attributes of the cosmos, and by metaphysical inference, as to the *Genesis* of all finite beings, the solvent of many problems respecting natural phenomena, becomes immovable conviction, as we read in the plain Book of God, "In the beginning God created the heaven and the earth ;" "All things were made by Him ;" "and He is before all things, and by Him all things consist ;" "Of Him, and through Him, and to Him are all things, to whom be glory for ever." From that source we learn that the same Infinite Being who "stretcheth forth the heavens, and layeth the foundations of the earth," "formeth the spirit of man within him ;" and is thus "the Father of spirits," "the God of the spirits of all flesh." The First Cause, which science, in its narrower sense, could not see, and which reason descried from the standpoint of science, here declares

Himself "God that made the world and all things therein."

(4) Eagerly have men asked whether God who made the world, and subjected it to general laws, holds any intimate relations with men as individuals, and communities. Does He care for us, and control our affairs? or are we left to be affected, for good or ill, by the perpetual change which belongs to all that is temporal, regardless of personal relationship to Him? Is there a Divine *Providence*, superintending all the interests of the present life? But nature has returned no satisfactory answer. In the extremes of human experience, the thoughts and desires of men have turned earnestly to the skies, in search of some super-human personal power, to whom all events are naked and open, and in whom they might confide. But the heavens have made little or no response.

It requires a supernatural message to inform us that God "doeth according to His will in the army of heaven and among the inhabitants of the earth;" that "in Him we live, and move, and have our being;" that "The Lord God is a sun and shield; the Lord will give grace and glory; no good thing will He withhold from them that walk uprightly;" "In whose hand is the soul of every living thing, and the breath of all mankind;" "Like as a father pitieth his children, even so doth the Lord pity them that fear Him." From His works alone we conclude that He *may*; His word assures us that He *does* care for us. Nature may raise, but cannot solve the important problem of God's attention to all human concerns; the clearer voice from heaven affirms that "From the place of His habitation He looketh upon all the inhabitants of the earth."

Numbering the very hairs of their heads, how much more does He consider the thoughts and requirements of their souls. He whose stupendous works in the heavens and the earth fill us with wondering awe, satisfies not the craving of our hearts until He declares Himself "OUR FATHER."

(5) Still more inadequate is the instruction of nature on the more strictly *moral government* of God. No question can arise of deeper importance to man than that of His moral rule over us, its reality, its principles, its bearing on our interests. Reason can trace that rule here and there ; but falls far short of supplying the amount of knowledge we urgently need. It tells us not why moral and natural evil are allowed to exist within the domain of a Righteous and Almighty Lord ; or why it is possible for vice to reap the possessions and pleasures of life, while virtue lies distressed. It may surmise that man has sinned, and come under the penal results of wrong-doing ; but Revelation clearly and emphatically proclaims that it is so. Reason may conjecture, with a measure of probability, that the apparent inequities of retribution here may be justified by rewards and punishments in the great hereafter ; the Word certifies this conjecture as truth, with many additions in respect of the nature and duration of future retribution, awarding to every man "according to the deeds done in the body." Conscience, with its sense of freedom and responsibility, bears witness to the reality of moral government ; but only gropes its way, until it receives the guidance of the law which "is holy, and just, and good."

Our moral nature and social condition necessitate some code of ethics ; for without it society is impossible.

But alone they grovel under sordid and ignoble motives. The highest, and only sufficient motive to morality is that love which "is the fulfilling of the law." "Thou shalt love the Lord thy God with all thy heart," and consequently, "Thou shalt love thy neighbour as thyself," contain the grand motive power of moral goodness.

Had reason been able to extract from nature a sufficient knowledge of duty to God and fellow-men, it would not have sufficed in the absence of that *authority* which Scriptural morality derives from the majesty of the Divine Lawgiver, and the sanctions by which His law is enforced. With man, at least in his present condition, the abstract idea of virtue is incompetent to enforce itself. Hence Revelation, while furnishing the most explicit enunciation of duty, in the name of the Infinite God, supplies motives to obedience, in the tremendous sanctions of everlasting punishment and everlasting life. In brief, if the moral government of God, of which nature affords a rudimentary knowledge, is to be filled out, and duly impress itself on the character conduct and destiny of man, it can only be done by the luminous teaching of men who spake as they were moved by the Holy Ghost.

(6) But Christian morals cannot be duly understood, or appreciated, unless related to the scheme of *Redemption*. Nor can that scheme, so vital to our well-being, be discovered by natural theology. The sense of sin in men generally, and the endeavours among many nations to expiate it by bloody sacrifices, were as glances cast in the direction of the one great vicarious offering which atoned for the sins of the world; or more probably, they resulted, in part, from the lingering

beams of a lost, supernatural religion. But how sin came into the world, how its guilt and impurity may be escaped, and the favour of the Righteous Lord regained, are questions answerable by that Word only, which reveals the two representatives of the human race, "the First man Adam" in the fall, "the Last Adam" in redemption. The propitiation for the sins of the whole world, by which God was in Christ reconciling the world unto Himself, not imputing their trespasses unto them; the justification of him that believeth on the Son of God; the indwelling of the Spirit of Christ, producing conviction of sin, the consciousness of forgiveness, subjective and relative holiness, peace with God, meetness and security for eternal life; with other aspects of the mediatorial work of God Incarnate, are themes on which nature is dumb, but which from the Word of God, fall on weary, sin-sick hearts more gratefully than the sweetest music. In the eyes of the Apostle Paul, "the things that are made" are sufficient to reveal the "everlasting power and divinity;" but it required "the gospel" to unfold the way in which the Righteous Governor makes a sinner stand as righteous before His tribunal. "For therein is the righteousness of God revealed."

(7) Of the Revelation granted, the brightest and fullest manifestation of God is in *the person of His Son Jesus Christ our Lord*. His incarnation, resurrection, and other facts of His person and work, were themselves supernatural events, besides being supernaturally displayed and attested. His words were such as mere man never spake. But in His personal *character* He was Himself the Revelation of God. Nowhere else does the Infinite One come so near to us. He is "God

manifest in the flesh," the Eternal "I Am." The glory which He brought to light was "the glory as of the Only Begotten of the Father." He alone could say of Himself, "No man knoweth the Son but the Father; neither knoweth any man the Father, save the Son, and he to whomsoever the Son will reveal Him." But the Revelation was in the Divinity of His character, so far above sin folly and weakness, that to gaze on the works and attributes of that sublime Person was to see God. Hence His explanation to Philip, "He that hath seen Me hath seen the Father." "I am in the Father, and the Father in Me."

This unique manifestation of God in Christ radiates knowledge on the whole scheme of salvation; but for both the manifestation and the scheme we are indebted to the supernatural. More or less articulately comes the cry of humanity, longing to know its origin, and its relation to the Divine, "Show us the Father, and it sufficeth us;" to which natural theology yields no answer. The desiderated boon is found only in the mission of Immanuel. Bright, and welcome are the rays of truth beamed forth in the words of the Great Teacher, outshining the lessons of nature, as sunlight exceeds the light of the stars; but the fullest and only sufficient Revelation of the Father is gained when, to the disclosure of Divine wisdom justice and love, in the person and work of Christ, our unreserved trust and adoring gratitude respond, "My Lord and my God."

(8) Under the influence of natural theology, man may desire to *worship* the Supreme Intelligence; how it may be done acceptably he knows not. Should it take the form of material offerings? or vocal praise?

or bodily prostration? Will it be accepted for its own sake independently of any objective ground? Must it proceed through a Mediator? Is there any possibility of its being received by the Supreme Being? May it include supplication for benefits on the worshipper, or on others, with any prospect of success? Are some times and places more favourable than others? These are questions which find but meagre reply, apart from Revelation. But its directions are clear, *e.g.*, as to the object of worship, "Thou shalt worship the Lord thy God, and Him only shalt thou serve." As to spirit and motive, "God is a Spirit, and they that worship Him must worship Him in spirit and in truth." As to supplication, "If ye, being evil, know how to give good gifts unto your children, how much more shall your Father, which is in heaven, give good things to them that ask Him." As to mediation, and the meritorious ground of acceptance, "There is one God and one Mediator between God and men, the man Christ Jesus, who gave Himself a ransom for all," and who declares, "Whatsoever ye shall ask *in my name*, that will I do, that the Father may be glorified in the Son." "To God only wise be glory, *through Jesus Christ*, for ever. Amen." As to persons and places, "God is no respecter of persons, but in every nation, he that feareth Him, and worketh righteousness, is accepted with Him." As to intercession, it is directed that "supplications, prayers, intercessions, giving of thanks be made for all men." As to subject-matter, "In *everything* by prayer and supplication with thanksgiving, let your requests be made known unto God."

The immense advance of all this on the highest wisdom of natural religion is obvious; proving how

greatly such religion fails to supply what is evidently necessary to man's well-being in relation to his Maker.

(9) On the question of man's *chief good* (*summum bonum*), the wide diversity of opinion among ancient philosophers showed the importance of the question, and the incompetency of nature to solve it. "Who will show us any good?" did but rack the anxious inquirer, so long as no satisfactory answer could be obtained. Among the answers given—said to have numbered 280—the stoical answer set up *virtue* as the paramount good; the Epicurean, *pleasure*; according to others, it was *glory*; and again, *escape* of the *mind* from matter. But all fell short of an adequate answer, shifting about on the quicksands of uncertainty. That nothing should meet this deep want but intelligent communion with God, far surpassing aught afforded by nature, seems now perfectly reasonable. It remained for Revelation to unfold *life*, spiritual, divine, eternal, uniting man in conscious fellowship with the ever-blessed God, as the supreme end and consummation of all human beatitudes; "And this is life eternal, that they might know Thee, the only true God, and Jesus Christ whom thou hast sent." "Who of God is made unto us wisdom, and righteousness, and sanctification, and redemption; that according as it is written, he that glorieth, let him glory in the Lord."

Lord Bolingbroke, who asserted that the law of nature is clear and sufficient without Revelation, borrowed largely from the source he thus audaciously repudiated. Lord Herbert of Cherbury affected to draw from nature alone what he thought a perfect and sufficient religion, consisting of five articles, namely,

(1) That there is one Supreme God. (2) That He is chiefly to be worshipped. (3) That piety and virtue are the principal part of this worship. (4) That we must repent of our sins, and if we do so, God will pardon them. (5) That there are rewards for good men, and punishments for bad men, here, and in the future state. But many of his followers, having abandoned Revelation, were unable to retain all these. Nor would it be easy to establish these principles by nature alone. The greatest minds devoid of Revelation failed to find out so much of God. To all who will receive and fully use it, natural theology is a priceless boon, especially as a pathway to, and attestation of direct Revelation; but alone, it fails to discover to man his supreme end and blessed possibilities, and how to attain them.

Such is the simplicity and surpassing value of the Revelation of eternal life in the Son of God, that millions of ordinary people, like "the Dairyman's Daughter," have attained to a Divine blessedness, to which Socrates, Plato, Cicero, and others of loftiest intellect and aspiration, left to nature alone, were strangers. Listening to the voice of God, the simple "understand more than the ancients," who knew no teacher but nature.

4. REACTION of *Revealed on Natural Theology.*

It is matter of history that the highest forms of natural theology, such as may be attained in a Christian nation, were never clearly and firmly grasped by the leading thinkers or religionists of civilized heathen peoples, much less by those who sank into the dense darkness of barbarism. The great thinkers of Greece and Rome, who approximated nearest to the truth,

never constructed a theology which exhausted the whole of what nature may be made to teach, or established a broad, solid basis of enlightened Theistic faith.

This might be, in part, because their aims were those of philosophers rather than theologians. It might be due, in some measure, to the judicial blindness which fell upon communities (probably involving some earnest, individual seekers after God) who did not like to retain God in their knowledge. But there is reason to think it was also owing to the lack of that reflex influence of Revelation, by which, in Christian lands, natural theology is illumined and improved.

This explanation acquires probability, if we compare the failures of heathen thinkers with the arguments of Deists thinking in presence of the Christian Revelation, though professedly rejecting its authority. After making due allowance for the large amount of Christian light, which the Deists borrowed without acknowledgment, and used as if it were the light of nature, it remains that many of their reasonings were superior to aught they could ever have attained, had they never been acquainted with Christianity. Their greater success was not due to any intellectual superiority to the leading thinkers of ancient Greece and Rome; but to the fact that they lived, thought, and wrote in the presence, and under the influence of Revealed religion. The same cause in a still higher degree accounts for the lucid, and well-compacted natural theology of Christian believers. The first part of Butler's *Analogy*, Paley's *Natural Theology*, and the *Bridgwater Treatises*, which have no parallel outside Christendom, though based on the evidence of nature alone, in all likelihood could never have been produced by any but Christian theologians.

Such thinkers have their interest in Divine things greatly quickened, and their faculties whetted by Christianity, for the investigation of the whole question of theology. Moreover, Revelation sets before them the true ideal of the Divine character, which, without begging the question, preserves their inquiries from confused and profitless wanderings, and, like a magnet, draws on their reasonings towards itself. Then again, it may be presumed that the disturbance of the intellectual balance, which results from the moral depravity of the race, and disqualifies for accurate research, is far less potent in those who have come under the regenerating grace of the Holy Spirit, and who have thus received "an unction of the Holy One," in whom they "know all things," than in those who are utterly strange to such help. Assuming the truth of Christianity, its earnest recipients surely possess special qualifications for apprehending and appreciating nature's echoes of their heavenly Father's voice.

Further, Revelation is a kind of mirror, in which natural theology may see itself reflected in fairer aspect than it presents to direct inspection. More strictly speaking, our ideas of the former become clearer and broader as they are seen in the light of the latter. This process may be illustrated by the history of physical science. For example, Copernicus discovered that the Ptolemaic system, which made the earth a fixed centre, was erroneous, and ascertained the axial and orbital revolutions of the earth and other planets. But the discoveries of Newton and others on gravitation and celestial motions, when superadded to the Copernican system, so far as that was sound, rendered the truths discovered by Copernicus still more intelligible,

and beautiful. The later and fuller discoveries, though in some sense reached by means of the earlier, not merely supplemented, but illuminated them.

If a fragment of a fossilised animal enables the palæontologist to determine its place in the realm of biology to a certain extent, the discovery of a *perfect* fossil of the same animal may still further improve his acquaintance with the fragment. Similarly, Revealed theology is not merely an addition to natural, confirming our faith in Theism; but a light rendering more distinct the Theistic testimony with which nature is overwritten. History indicates that natural theology, though grounded in reason, has not inherent vitality enough to preserve its proper place in the human mind. Left to itself, its tendency has generally been to degenerate; whereas in presence of supernatural Revelation, its import and evidence have grown in clearness and vigour, rooting themselves deeply in the intellect and heart of mankind.

This aspect of the case raises a powerful presumption in favour of the truth of supernatural Revelation. If the Scriptures expand, and illumine the otherwise waning theology of nature, showing that each is complementary of the other, the fact points to a common origin. If, again, the message contained in those writings meets the profoundest want of our being, it alone answering to our necessities and longings, the correspondence betokens the justice of the claim, advanced by that message, to be a revelation from Him who made the heavens and the earth, and endowed humanity with its admirable susceptibilities and powers.

In conclusion, despite the many quicksands on which we are invited to build, and the pessimism which tells

us we cannot build at all, it is manifest that our faith in God may rest securely on firm foundations, which He Himself has provided. Reflective minds, eager to grasp sound doctrine and to cast the bad away, cannot be sure of exemption from all assaults on the principles of their trust in God, especially in an age like this, when no doctrine is too sacred, or too vital to be flung into the crucible of reckless polemics. But the believer, who, from his turn of mind or his circumstances, is unable to ignore the charges hurled against the bases of his religious beliefs, may, by honest, patient inquiry, work his way down to first principles—and as a rule the ability and opportunity of settling doubt keep pace with the need—to return from the task with increased assurance that God has spoken of Himself in all His works, and again far more distinctly and fully in the Word of His grace; that Revelation is the enlightener of reason; that the natural and the supernatural answer to each other; and that both lead up the truth-loving spirit to the knowledge and fellowship of “the living God, which made heaven, and earth, and the sea, and all things that are therein.” “And this is the record, that God hath given to us eternal life, and this life is in His Son.”

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